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Gleanings in Bee Culture

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Tar paper packing cases

Our Winter Problems*

By Edwin J. Anderson

Assistant Professor of Apiculture, State College, Pa.

Wintering is a phase of beekeeping composed of multiple problems; it is not simply a question of whether we wish to pack our bees or leave them unpacked. If that were all we had to consider, wintering would indeed be an easy problem.

The factors that have a direct bearing upon the ability of a colony to survive are not only many but are complicated by the fact that each winter presents a different combination of conditions. One cannot anticipate which will be the most serious in any particular winter but must take steps to prevent loss from any or all of the difficulties that may lie ahead.

A list of winter problems would include the following:

1. Quality and quantity of food
2. Wind protection
3. Packing
4. Vigor of bees
5. Adult as well as brood diseases

The matter of quality and quantity of food may in turn present a number of problems. If the winter is mild and the bees have an occasional flight, they seem to be able to winter successfully on almost any type of honey. Since we do not know in advance how long the bees are to be confined or how severe the winter is going to be, we should make sure that each colony has plenty of well ripened honey of good quality. The poor quality foods are largely those that the bees normally gather in fall such as honeydew, fruit juices, wild aster, etc. Aster honey often crystallizes solidly so that starvation may result when there is plenty of honey in the hive. A few combs of good quality honey placed near the center of the brood chamber will remedy this condition. If honey is not available thick sugar syrup will serve the purpose. It should be fed after the first killing frost.

In the fall of 1936, the bees in Pennsylvania enjoyed a heavy as well as a long flow from wild aster. The flow was so intense that it stopped practically all brood rearing during most of September and October. The flow finally stopped when cold weather set in late in October. The low fall temperatures that followed prevented the bees from ripening the last nectar. The result was a shortage of young bees plus a poor quality of food which together

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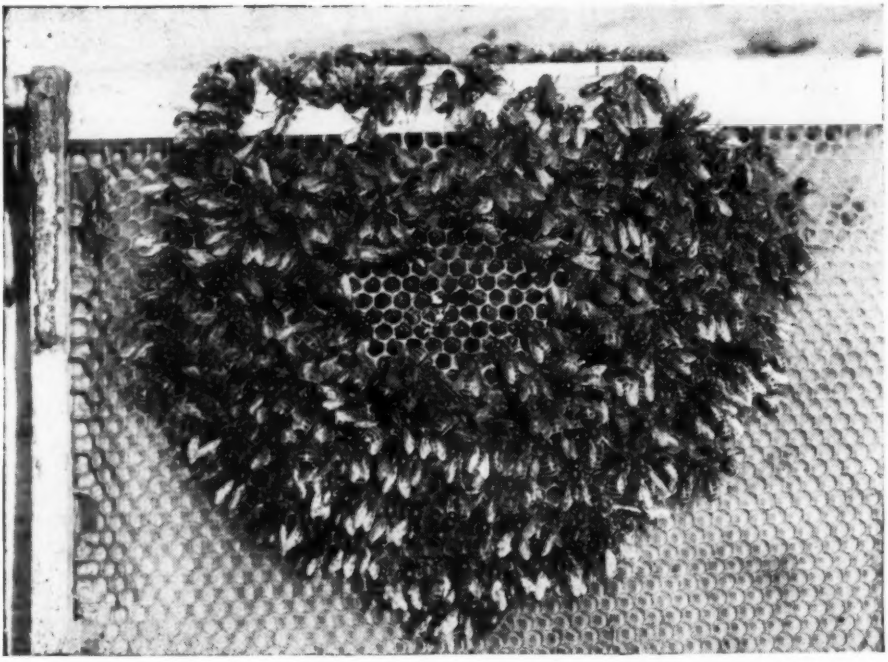


A comb with dead bees removed carefully from a starved colony, to show formation of winter cluster.

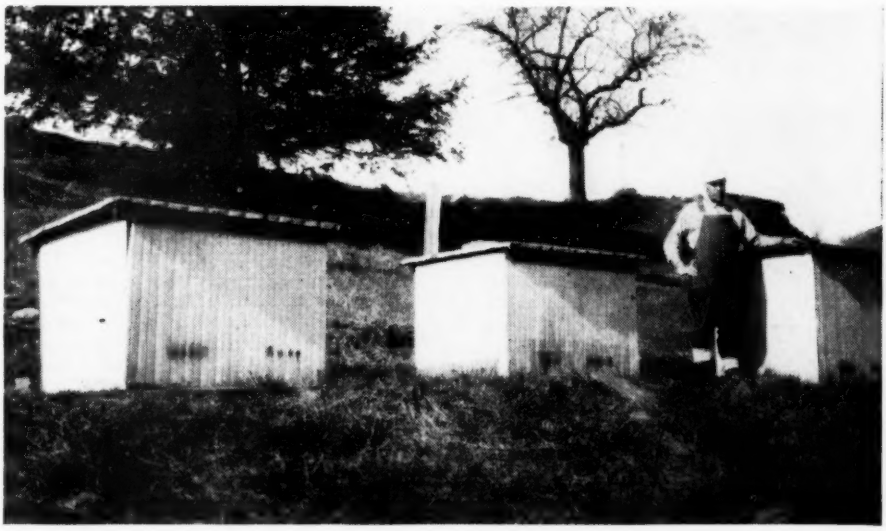
brought about a 45 per cent loss of bees. Fortunately, this combination of conditions has not been repeated since 1936. There was little that could be done to prevent loss that year since the continued cold weather prevented the bees from rearing brood and the beekeeper from feeding thick syrup.

A periodical cause of winter loss is starvation. The quantity of honey in a hive may be over-estimated, especially when the bees are wintered in single story hives. What appears to be eight frames of honey or 48 pounds may be but four or five frames of honey totaling less than 30 pounds. The other frames that appear to contain honey may be combs of pollen sealed under a thin layer of honey. When colonies are wintered in two stories, the lower body may contain mostly pollen so that the amount of honey available is again less than the weight of the hive might indicate. When one and a half or two stories of honey are used for winter the danger of starvation is greatly reduced. When one story only is used, occasional feeding in fall or spring must be resorted to to prevent starvation.

Wind protection is of major importance for wintering and can be provided at relatively small cost. Cold winds penetrate the hive and cause the bees to consume excessive quantities of food. Cold winds may also prevent the bees from breaking the winter cluster so they can move honey into the brood area. During a prolonged cold spell this adverse condition may cause a number of colonies to starve when there is plenty of honey in the hive. Prevailing winds also whip the bees about as they return home and cut short the lives of the older bees.

A six foot board fence, a planting of evergreens, a fence of corn stalks, etc., may be provided where natural protection is lacking. The benefits of a windbreak extend over all but the two warmest months of the summer. The value of wind protection is so great that no bee yard should be left without it.

Packing still remains one of the most controversial subjects in Pennsylvania beekeeping. Packing requires time and is expensive; hence,



Two-colony wooden cases.. The bees are inclined to drift from one hive to the other when entrances are close together

to be profitable, must return at least some financial benefits to the beekeeper. Research work at the College shows that packed hives require but little heat. The heat produced from a 15 to 25 watt bulb was sufficient to raise the temperature of a packed hive above 57 degrees F. during most of the winter in Pennsylvania. Empty hives were placed in a wooden winter case, then a 15 watt bulb and a thermometer were placed in each hive; the hives then were packed with five inches of packing material. The heat from this bulb raised the temperature inside the hives as much as 50 degrees F. Temperature changes took place very slowly in the packed hives. A lag of six to seven hours was recorded from the time the temperature changed outside the case until a difference of some significance was observed inside the hive. A greater time was required for noticeable temperature changes when the empty hive was filled with honey as it would be when it is occupied by bees.

The type of packing material also affects the time required for external heat to penetrate to the hive inside. Temperature differences for the various type of packing material were taken at intervals for a period of several days. They show the relative value of the different materials. Five inches of packing was used in all the packed hives. The 15 watt bulb was placed near the bottom of each hive. One reading of temperatures is sufficient to show the relative value of the different packing materials. The readings are as follows:

Type of Packing Material	Temp. outside of case	Temp. in top of hive
Straw (some chaff)	31° F.	69° F.
Sawdust	31° F.	76° F.
Leaves (crumpled well packed)	31° F.	75° F.
Shavings	31° F.	73° F.
Sawdust	31° F.	76° F.
Unpacked hive	31° F.	39° F.

A similar condition was recorded in regards to the hive humidity. Packed hives normally held a humidity ranging from 50 to 60 per cent while the humidity in unpacked hives varied more in response to changes in outside conditions.

Humidity readings taken April 13, 1944 in hives with bees were as follows:

Time of Day	A.M. 10:15	11:40	1:15	P.M. 7:00	9:15	11:30
Humidity Out of Hive	30	26	25	24	40	60
Humidity in Unp. Hive	85	81	80	62½	65	70
Humidity in Packed Hive (Hay)	58	59	55	55	51	52

The constant humidity as well as temperature in a packed hive indicates the reason for the formation of little if any condensed moisture on the walls. This lack of environmental variation also causes queens to

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The Wintering Problem in Massachusetts

By R. E. Newell

Wintering losses of honeybees in the United States often run as high as the annual increase by swarms and divisions. It is not unusual to hear of apiaries where losses are 50 per cent or more. Starvation alone accounts for more than half of these losses, while failing queens, honeydew, and faulty preparation accounts for most of the balance.

Bees winter successfully in hollow trees and old buildings where the winter temperature is extremely cold. The writer has taken bees from hollow trees in the White Mountains where it is not uncommon to see the thermometer register 45 degrees below zero, and the bees are not able to fly out of their hives from late October to early April. Bees are able to form a tight cluster during the winter, and consume honey within this cluster to maintain a temperature not far from 57 degrees F. within the cluster. During mild weather this cluster is broken even when the outside temperature is not high enough for flight. It is during such periods that the bees move upward or to one side to cover a new supply of honey and as the temperature drops toward the danger point the cluster is reformed. If the change in temperature is rapid large numbers of bees may be too slow in joining the cluster and become chilled, and die if this period of cold continues.

The writer has done considerable experimenting with different types of double walled hives, and packing cases using various packing material, such as dry planer shavings, coarse sawdust, chaff, and dry peat moss for insulation. While such protection may save from five to ten pounds of honey per colony during an extremely cold winter, the cost in labor and material offsets this saving of honey. Undoubtedly during these times when bees are high in price, and hard to get, it might be profitable to pack the colonies containing young queens and five or six frames of brood rather than unite them.

My bees are wintered on their summer locations, except for the colonies that are light in stores and these are usually brought home for feeding if sufficient honey in the comb from other colonies is not available. I plan to leave a full-depth super of honey on colonies where the brood chamber contains less than four or five frames of honey, and a shallow super of honey where the brood chamber contains six to eight frames of honey and pollen. Empty combs containing neither honey nor pollen are removed and full combs of honey and pollen are substituted at the sides so that the hives contain at least 50 pounds of honey.

Honeydew or any combs of poor quality honey are removed during the process of examination to be saved for late spring feeding. Where brood rearing continues until near the end of the goldenrod and wild aster flows, the bees are unable to fill these combs with honey for winter and maintain normal brood rearing at the same time. Therefore, sufficient supers should be provided on top to prevent congestion in the brood chamber, and no empty combs exchanged for full ones until after the honey flow and brood rearing has stopped.

With vigorous queens in all the hives, not necessarily all of the present year's rearing, during August and September for production of the maximum brood, and at least 50 pounds of good quality honey, plus pollen in the hives, the wintering problem is practically solved. The remaining factors consist of:

1. A water-proof cover and wind-proof hive.
2. Upper flight entrance or hole in the upper chamber to permit moisture to escape and the bees to fly should ice or snow cover the main entrance.
3. Reduced main entrance to prevent damage from mice, using regular entrance reducers which are best, as they are easily removed for cleaning off the bottom boards in early spring.
4. Several thicknesses of newspapers between the inner and outer covers to provide insulation at the top. Should this paper become moist, it is easily exchanged at the monthly visit during the winter.

(continued on page 462)

Beekeeping in England

By George A. Carter, B. Sc., A. I. C.

An English apiary in winter.

Beekeeping in England is on a smaller scale than in the United States of America; and the number of men running a few hives in their gardens exceeds by far those who maintain bee-farms as such.

There are a few men who own 1,000 to 1,500 colonies, but the majority of beemen in England are hobbyists, not professionals.

The flora and the nature of farming in general in the land demand that the few professional beemen split up their holdings into numerous units, or out-apiaries, each consisting of about 20 to 40 colonies, placed at advantageous positions, with a central extracting, bottling, and storage plant at the home apiary.

A number of part-time beemen run apiaries of between 50 and 300 colonies, on similar lines; but do not rely on them for their livelihood, but rather either run them in their spare time or as a source of income to supplement that from other pursuits. The vast majority of colonies belong to the hobbyists who own from 2 to 12 hives and keep them in their gardens.

The large (commercial) bee farms use American type hives, the "Langstroth," the "Modified Dadant" and the "National," which latter is a British - American hybrid. A number of the more progressive small unit men run the above type, mainly the "National," but the remainder, by far the greater number, still favor the old-fashioned double-walled hive known as the W. B. C. (from W. B. Carr, the inventor).

Education and example are gradually dispelling the prejudice against the modern single-walled hive; and in course of time the double-walled type will virtually disappear.

The size of frame is, of course, the same for the Langstroth and Modified Dadant as in the States, but the National and W. B. C. employ a size known as the British Standard Brood Frame, which is 14 inches by 8½ inches. The brood chamber holds eleven of such frames in the National, and ten in the W. B. C.

Some men run the double brood-chamber system, and all use shallow supers for the surplus, the frames for these being 14 inches by 5½ inches for the National and W B. C. hives, and known as the British "shallow" frame.

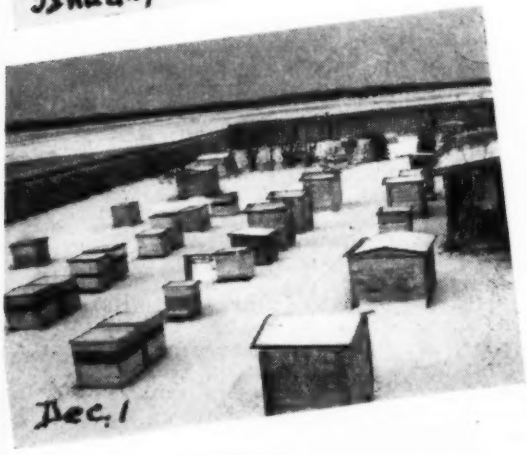
Other equipment runs on much the same lines as in the United States, except that far more people own a small extractor of the tangential type, the large capacity, power-driven, radial machines being in use only on the larger bee-farms.

The organization of the industry is at the moment undergoing a fundamental change. For the professional men there is the Honey Producers' Association of Great Britain, which is interested in the marketing of the produce. There are possibly about 55,000 other beekeepers (owning about 420,000 colonies), and it is estimated that less than half of these are members of a county association. Most counties in Great Britain have a beekeepers' association, which is run by voluntary workers; the members' annual subscription of about a dollar and a half being used to finance meetings, lecture expenses, association libraries, and disease (foulbrood) insurance.

There is a move now afoot to bring all associations and federations into one grand body, which will be for the betterment of beekeeping in general.

In order to control and eventually eliminate foulbrood (European and American), there is an organization known as "Bee Disease Insurance, Ltd.," which, financed by subscription from association members, compensates, partly at least, owners of

(Continued on page 467)



A Winter Tableau

By M. J. Rowland

This apiary is in Northern Ontario, Canada, latitude 49 degrees 23 minutes north, longitude 82 degrees 29 minutes west and altitude 720 feet, along the Northern main line of the Canadian National Railways which leads northwest from Quebec city, thence through Cochrane, Ontario.

Hives are numbered from the foreground of the snapshots to the back. Rows are numbered from right to left or North to South. All hives face the South except those in four-colony cases where two face eastward and two, westward.

September 17: Autumn scene. All honey supers and top brood chambers have been removed in readiness for winter. The third colony of the second row is on a set of scales. Its weight was recorded daily during the summer. The fourth colony of that row is to be moved back to a place by the side of the group of three in the first row to fill a four-colony case for winter.

September 19: All colonies, except the one on scales, are in winter cases packed with planer shavings. The large cases have six inches of shavings beneath and around the hives and ten inches on top. Other cases have no bottom packing but allow side packing of six, four, and two inches. All have ten inches of packing plus an air-space above the colony. The first large case contains two colonies, the second, four colonies.

December 1: About three inches of snow covers the ground. The lattice work fence along the south side of the apiary is 5½ feet high. The fence along the north side, not shown in this picture, is 7½ feet high. The high side of the shed roof is also 7½ feet.

in the Bee Yard

January: An Interlude. On the Kapuskasing River going to visit out apiaries.

March 20: Near the end of winter which spreads a thick, white blanket over shed and bees. Snow is at its greatest depth. From the top of the 7½ foot north fence the drift slopes downward gradually to a line between the second and third rows then drops abruptly to 30 inches in depth and remains at that level to a line in front of the fourth row from where it rises to the top of the south fence.

A draft swirls snow away from the cases in the southeast corner and from an area beyond the clipped hedge. Bees do not winter well there. The vertical rods are marked for measuring depth of snow.

March 25: Some snow has melted but a fresh fall gives the surface a smooth finish.

March 31: More cases appear above the snow. The dirt, soot, etc., which accumulates during the winter does not melt and makes the snow progressively dirtier as it goes down in the spring. The height of the large case almost uncovered and of the one whose roof-peak is just emerging is 46 inches.

April 9: There are still some cases buried under snow along the south side of the shed.

April 20: Nearly all snow has gone, the last melted on April 23. The scale colony was moved to allow cleaning the platform. All colonies survived the winter except those four in the large case from which the snow was swirled away. The last bees there died during the early part of May.

Kapuskasing, Ont.

Wintering

By E. R. Root

(Continued from the September issue)

Excessive Packing Versus Moderate or No Packing of the Hive Itself

Insulation of hives could hardly be placed in the category of heresies, because in some localities the author believes that it may be necessary if not highly important for good wintering. Except for extremely cold localities, moderate packing or a simple wrapping of building paper around the hive is probably safer and better than excessive packing or what has been appropriately called ice house packing that puts a colony in cold storage where the heat rays of the sun cannot reach the cluster.

Why Packing for Outdoor Wintered Colonies?

It is only natural and logical to believe that double walls to a house or dwelling would save fuel over a building where the walls are only of one thickness. Why would not the same principle apply to a bee hive? The cluster of bees within would be a source of heat like a furnace or stove in a dwelling. The colder the outside atmosphere the more honey (fuel) the bees would consume. The colder the outside the more fuel (coal) the furnace or stove would burn in a dwelling house. This logic on its face is more convincing than true.

Bees Are Cold-blooded Animals

Up to this point the parallelism ends. Beyond this there is a big difference. In a house, the occupants are human beings and therefore warm-blooded animals who cannot stand a reduction of body temperature which must be kept at near 98°F. To do this, man must wear clothes and in addition have a room temperature of 70 or 72°F. kept there by the consumption of coal, oil or gas. The occupants of a bee hive are bees and, as science tells us, are cold-blooded animals. The body temperature of bees can drop from 97° F. summer brood rearing to around 43°F. on the surface of the cluster. When that outer shell temperature goes as low as 27°F. bees die. Bees in the outer shell one or more inches deep can stand 43°F. for a long time provided they are kept supplied with honey by the bees from within.

Bees in the cluster raise the temperature when it turns colder outside in two ways (1) by contracting the cluster so as to reduce the surface of the ball, and (2) by activity when the surrounding temperature drops below 57°F. It will be noted that there is a considerable range of temperature of the winter cluster because bees are cold-blooded animals and can adapt themselves to such variations while we humans can't stand a continuous body temperature much below 98°F.

Overcoats for Bees During Winter

If bees were warm-blooded animals they would have to have overcoats, so to speak, in contact with the cluster; but man-made overcoats would not fit the constantly expanding and contracting of the cluster. So nature has provided the honeybee cluster with its own overcoat consisting of an outer shell of bees of from one to three inches in depth. This overcoat can expand or contract to fit the ball of bees within. We don't know yet whether the bees in the shell change places with the bees inside. Milum says they do not, and, if the cold continues, die. If a mid-winter sun warms up the cluster there may be this exchange of bees. (Right here, score a point in favor of no outside packing of the hive which would shut out the sun and keep bees in cold storage.)

To go back to our overcoat, we can't make it fit a cluster of bees so we must put it on and around the hive leaving an air space between the hive and the cluster of bees. After a prolonged cold spell this space will be nearly as cold as the outdoor air whether the hive is packed or not. Thousands of temperature readings by Farrar have shown this to be true. If there is no difference in the air space surrounding a cluster of bees in a packed and unpacked hive then why pack, especially as bees are cold-blooded animals?

Langstroth on Excessive Moisture in Winter.

Another fact should be noted that these hollow logs had one or more knot holes furnishing fresh air. Langstroth, 70 years ago, showed that bees needed ventilation and he was the

first to advocate upper entrances not only to supply fresh air but to allow moisture to escape. (See 1873 edition of his book "The Hive and the Honey Bee".) He made and sold hives with upper entrances. Here is what he wrote in July Gleanings for 1881:

Whatever the material used for confining the bees below it should, as a matter of course, permit the ready escape of superfluous moisture. With weak stocks in very cold winters this is a point of great importance.

I believe that even in such a winter as the past one (1880-1881), that with winter passages, combs properly spread apart and a warm clustering space for the aforesaid purposes, bees could be better wintered in the open air in hives ⅛ inch thick, than with any amount of chaff above, around or below them where these precautions are ignored; for in sunny weather such thin hives will warm up so as to dry out and allow the bees to reach their stores, while the chaff hives may remain cold and damp as a cellar.

Langstroth* in 1859 showed the folly of allowing excessive moisture and the need of ventilation. He says:

In the winter of 1855-6, I had twenty stocks standing in a row, all but one of which would have been regarded as in a good condition for wintering—not too tight below, nor yet too open above. One was in a hive suspended twenty inches from the ground, and without any bottom board. The chamber for surplus honey-boxes was open to the north; and had eight one-inch holes, all uncovered.

I left home about the 12th of February the weather being very cold, and the hives all banked up with drifted snow. Returning the last of the month, I examined the whole row, and found the nineteen thawed out, but in a sadly wet and miserable plight. If I could have taken them into a room out of the reach of the frost until they were dry they might have been saved. The weather changed to severe freezing before the next morning and all the nineteen swarms soon died; while the one that was apparently so neglected came out strong and healthy. Before adopting upward ventilation I had lost my best swarms in this way until I became discouraged.

Admitting that a two-story double-walled hive or a two-story single-walled hive wrapped in packing will prevent rapid changes of temperature, and so save brood and furnish more bees especially in the spring, the cost of such insulation may more than offset any gain.

During war times, competent man power is expensive and hard to get. Even during peace times the low price of honey may not warrant the expense of packing whole yards of bees 50 or a 100 miles away. The average production of honey per colony for the whole country is around 40 pounds. The cost of packing where man power is available is not less than 50 cents per colony and usually at the out-apiaries it will be nearer $1.00 to cover 5 cents a mile for gas and oil. It is argued that if the 50 cents or $I.00 is expended in building up stronger colonies to occupy two and three Langstroth ten-frame hive bodies, the force of bees will double and triple the production of honey and wax over ordinary packed colonies in territory usually short of natural pollen in the fall or spring.

The cost of packing can be reduced by the use of factory made double walled hives. If they last, say, for 10 or 20 years, the yearly cost can be reduced from first cost of from one-tenth to one-twentieth. But double-story hives on account of size and weight are not readily portable like single-walled hives and of course are not suitable for migratory beekeeping when yards have to be moved often to new and better pastures.

At this writing, July, 1944, the new doctrine of reserve pollen or pollen supplements based on soybean flour supplied in the spring will greatly increase the colony strength.

Jas. I. Hambleton, Chief of the Bee Culture Laboratory Research Work of the U. S. Department of Agriculture, makes this statement:

I feel that in view of all the work that has been done on temperature winter losses have not been reduced noticeably and that the key to the wintering problem will involve factors of greater importance than the reactions of bees to temperature.

Dr. W. E. Dunham, of the Department of Entomology and Zoology, and Professor of Bee Culture, at the Ohio State University, Columbus, Ohio, has made the statement that he thinks in ten years commercial beekeepers, no matter in what locality, will not use packing for their colonies but believes that it may be useful and necessary for many beekeepers who do not pay much attention to their colonies often weak and poorly supplied with honey and pollen.

The veteran Professor H. F. Wilson, Entomologist, at the University of Wisconsin, who with his students has done a vast amount of research work on bees, says he can now see that the data of that work correlates with the recent work of the Bureau of Entomology in the U. S. Department of Agriculture by Hambleton and his staff.

(to be continued)

*Langstroth L. L. A practical treatise on the hive and honeybee. Ed. 3 p. 341. New York. 1859.

XUM

Good Eating for Cooler Days

By Mrs. Benj. Nielsen

Honey chiffon pie.—Photo from National Biscuit Co.

Now that the canning season is about over, except for a few late pears and perhaps the tag-end-of-the-garden green tomatoes, we can train a more concentrated attack on the ever-with-us task of meal planning and preparation. Meals will not be the hurried more or less thrown together affairs that they all too often were during the press of sticky hot canning days. With the advent of cooler days, appetites assert themselves and with relish we don our aprons, fill the old honey jar and stir up interesting concoctions to satisfy inner demands.

These crisp, snappy fall evenings fairly demand wiener roasts, now don't they? Fun! And, of course, that calls for plenty of fat buns, or long narrow finger rolls in which to encase these succulently toasted meat treats. The feathery textured honey rolls given to you this month will delight Mom and Dad and the younger fry alike. Whether you mold the honey sweetened dough in fat buns or long finger rolls be prepared to supply the demand even to fourths and beyond. No mere words do them justice.

Every once in a while we have what we call a refrigerator meal at the Nielsen's. We simply open the refrigerator, check on the small covered dishes and make a game of extending and dressing up the leftovers. Results: easy on the budget, a refrigerator you can get something into once more, and not infrequently a new recipe is thus born (is that the word?). No matter how simple this fare may be, if it is accompanied by an elusively flavored honey quick bread, no one has any complaint. A bit of mincemeat and part of a jar of cherries add the surprise touch to the two sure-repeat honey muffin treats. Then again why not bring up a pan of apples from the cellar and perk up our left-over meal with a batch of scrumptious honey apple dumplings?

Incidentally, how about a piece of honey cream or chocolate pie? Both are easy to make, delightfully full flavored, confections you will be proud to serve to guests. Speaking of guests, those unexpected ones that just "drop in" every now and then—you'll never be embarrassed if you make a practice of keeping on hand a batch of honey currant buns or honey cinnamon rolls. They need not be freshly baked either, for their honey content keeps them wonderfully moist and fresh and bestows a rich deep golden crust that is a joy to behold—and to eat!

Have I whetted your appetite sufficiently? Then here are the recipes—all you need to do now is go kitchenward and satisfy your longings.

Honey Cinnamon Rolls

One cup milk, 4 tablespoons shortening, 4 tablespoons honey, 1 teaspoon salt, 1 cake compressed yeast, ¼ cup lukewarm water, 1 beaten egg, and 3½ cups sifted flour.

Scald milk; add shortening, honey, and salt; cool to lukewarm. Add the yeast, softened in water; add egg. Gradually stir in flour to form soft dough. Beat vigorously; cover and let rise in warm place until double in bulk, about 2 hours. Turn out on lightly floured surface and roll to oblong shape, ¼-inch thick. Brush with melted butter, spread with honey and dust with cinnamon. Raisins or currants may be dotted on the dough at this time if desired. Roll and cut in 1-inch slices. Place, cut side down, in greased baking pan or in greased muffin tins; cover and let rise until double in bulk. Bake in moderately hot oven, 375 degrees F., about 25 minutes.

Honey Currant Buns

One-half cup whole bran, ½ cup currants, ¾ cup milk, ¼ cup honey,

2 cups sifted flour, 4 teaspoon baking powder, 1 teaspoon salt, and ¼ cup shortening.

Combine whole bran, currants, milk, and honey. Allow to stand 10 minutes. Sift flour, baking powder, and salt together; cut in shortening until the mixture resembles coarse cornmeal. Add first mixture, stirring to form a soft dough. Turn onto lightly floured board, knead slightly and shape into a roll. Divide into 12 equal pieces. Shape into a ball and flatten out to ½ inch thickness. Place on greased pan and bake in moderately hot oven, 425 degrees F., about 20 minutes. Yield: 12 buns, 2½ inches in diameter. Buns may be glazed with a mixture of honey and melted butter before baking or they may be lightly frosted with confectioner's sugar icing as soon as removed from the oven.

Honey Glaze

One tablespoon honey and 1 tablespoon melted butter.

Honey Chiffon Pie

One teaspoon unflavored gelatin, 2 tablespoons cold water, 2 cups milk, ½ cupful honey, 3 tablespoons cornstarch, ¼ teaspoon salt, 2 eggs, separated, and 1 teaspoon vanilla.

Soften gelatin in cold water. Scald 1⅔ cups of milk over hot water. Add honey and heat thoroughly. Mix ⅓ cup of the milk with cornstarch and salt; add hot mixture slowly to this; stir constantly. Return to double boiler and cook until thick. Cook covered 15 minutes longer, add slightly beaten egg yolks, cook two minutes. Remove from fire, stir in gelatin and cool mixture; add vanilla; fold in stiffly beaten egg whites. Turn into graham cracker crust and chill until firm. Garnish with fruit or grated bitter chocolate. This makes a 9-inch pie.

Honey Chocolate Chiffon Pie

Two 1-ounce squares unsweetened chocolate, grated, ½ cup boiling water 1 tablespoon unflavored gelatin, ¼ cup cold water, 4 egg yolks, ½ cup honey, ¼ teaspoon salt, 1 teaspoon vanilla, ⅓ cupful honey, 4 stiffly beaten egg whites, and 1 9-inch pastry shell, baked, or graham cracker crust.

Melt chocolate in boiling water; add gelatin, softened in cold water; stir in honey. Add egg yolks, beaten very light. Add salt and vanilla; cool. Beat remaining ⅓ cup honey into the egg whites. Beat whites until fairly stiff, then add honey gradually. Fold into chocolate mixture; pour into shell. Chill until firm. Spread with honey sweetened, whipped cream.

Honey Finger Rolls

One and ½ cups of potato water (potato added to it), 1½ cups of luke warm water, 1 cake yeast, ¾ cup honey, ⅔ cup shortening, 1½ teaspoons of salt, and about 8 cups of sifted flour.

Put one medium-sized potato and the water in which it was cooked through a sieve. This should measure 1½ cups. Dissolve the yeast in the lukewarm water. Add potato water, salt, honey, shortening, and enough flour to make a soft dough, not as stiff as for bread dough. Let raise until light. Knead down and allow to raise again. Then pinch off small pieces and shape into buns or long finger rolls. Allow to raise until very light. Bake 20 minutes in a hot oven, 400 degrees F. Brush tops with butter and remove from pans at once.

Aurora, Nebr.

Honey currant buns.—Photo from Kenyon & Eckhardt.

From the Field of Experience

FOOD CHAMBER AS USED IN BRITISH COLUMBIA

By Wm. C. Feedham

This refers to the article by G. W. Bohne of Louisiana, page 358-359, "The Food Chamber". No doubt this plan has worked out satisfactorily in his district, while to use it here in British Columbia would not be so good, particularly in the lower mainland area. My humble experience has satisfied me that our best plan is the use of the queen excluder above two full-depth 10 frame hive bodies as a combination brood and food chamber, and have all hives above the excluder removed from September 1st to March 1st. Colonies are wintered in what is known as a Kootenay case (not packed). I advocate this case winter and summer, for warmth in the winter, and as the supers are added, the case cover goes up and the then partial wall helps to keep the hives cool in the summer.

My reasons for the two bodies below the queen excluder here are:

1. We require approximately 50 pounds of stores to winter a strong colony. It is a good comb that holds five pounds of honey by weight exclusive of wax and frame. We have an over-abundance of pollen in the late fall, much of it stored in the lower chamber.

2. I am opposed to artificial feeding during winter months. All stores should be established in the hives not later than October 15th to avoid unnatural stimulation of queen and bees.

3. If the necessary stores were placed in an extra super or food chamber above, with queen excluder between the brood chamber and the food chamber, as suggested in Mr. Bohne's article, the bees would not take the stores down, but rather would they move to the upper super which is warmer. The queen excluder if left between would obstruct the queen's travel and she would be left below to freeze and we would have a queenless colony in the spring. I have found many dead queens in the spring from misplaced queen excluders.

New Westminster, B. C.

[Note.—Mr. Feedham is right. In the North queen excluders should be removed in the fall, before bees go into winter quarters. Here in Ohio we have occasionally neglected to remove excluders from beneath the food chambers in the fall and almost invariably queens were found dead in the spring, outside of the winter clusters. In the South, where protracted cold weather does not occur, excluders may be left in place during the winter. —Editor.]

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WHY DO BEES GNAW AWAY AN INCH OF COMB ALONG THE BOTTOM OF BROOD COMBS?

By J. E. McKee

Every fancier of bees strives for perfect combs, not a drone cell, and not a single peep hole at the bottom of the combs, and it is most discouraging after one has such combs to see the bees wreck them. How nice and easy to look for queen cells on perfect combs and how difficult on chewed out ones.

From the standpoint of efficiency it is bad to lose an inch on each comb. Everyone stresses perfect combs but who knows how to keep them perfect once he has them? I once thought the bees were "asking" for more air space underneath the brood nest, and I made up some extra bottoms with three inches of space with slatted frames as usual, but I sold the hives before I could make an honest test of them.

A commercial beekeeper here thinks bees gnaw away the bottom of the combs when there is too large an opening or when hives are jacked up an inch or less all around in summer.

Alpine, N. Y.

[Too bad the result of this interesting experiment can't be known. Dr. Miller used slatted dummies under brood combs for ventilation. He thought they retarded swarming. I doubt if he noticed whether these had any effect on combs being gnawed above bottom bars. We used to think that bees in a brood chamber or between brood nest and entrance wanted edges of comb exposed to facilitate building of queen cells. The fallacy in this theory lies in the fact that the lower edges of the upper combs of a two-story brood nest are almost always built right down to the bottom bar. Suppose the main entrance were half way up the front of the hives. Would the combs at the ends of the frames be gnawed away? If there were such a tendency why would the whole lower lengths of combs be gnawed or left unfinished? Suppose there were no lower entrance, and no opening but at top. Would lower combs be gnawed in the upper story, and those below built down to the bottom bar? We would appreciate comments from our readers.—Editor.]

BEES IN BOLIVIA PILE UP SURPLUS

By Geo. H. Ekdahl

A little over three years ago I didn't know a queen from a drone. As amateurs we feel that we have had pretty fair success in producing honey these three years. For the season 1941-'42, beginning with two hives spring count, and dividing one putting in an Italian queen we got 706 pounds of honey from the three hives. The nucleus with the new queen gave 316 pounds and if we add the production of the parent colony the total was 475 pounds from that colony and its offspring.

For the 1942-1943 season, beginning with four colonies and getting one swarm early from one of them, the five colonies gave us 1100 pounds of honey, with the banner one giving 359 pounds.

For the 1943-1944 season, six colonies gave 1067 pounds or an average of over 177 pounds. No individual hive record was kept. To us this was a rather poor season for an unusually heavy rainy season nearly spoiled four months of summer weather. As we have only 1½ to two supers to a colony, we have to extract frequently.

I wonder what an expert could do in this region with a season extending more or less from August 20th to April 30th. There is no abundance of any one kind of flower, but a little of a big variety, cultivated and wild. There isn't much of what one could call a "flow", though there are several spells when production is low. Usually the bees fly at least for a few hours per day practically every day of the year. Here we are at 8000 feet elevation, which is about the lowest in this section. Here it is all surplus, for the bees practically maintain themselves through the winter.

Capinota, Bolivia.

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SECOND GLANCES

By C. M. Isaacson

Beekeeping as a profession does offer many inducements, yet Mr. Tontz does well to point out some of the "headaches" that can occur (page 393). Spray poisoning, both brood and adult bee diseases, poor crops, very cross bees—all can combine to dampen the enthusiasm of a beginner. But the other side—there is profit, and if bee fever once hits solidly—well—.

Beekeeping with packages might well be the title of Mr. leMaistre's article (page 395). Conditions in Alberta have caused a wide and increasing use of packages in place of wintering over colonies. The installation of the packages on honey and pollen, immediate uniting of queenless colonies, and Demareeing for swarm control, are all points of value from practical experience. Incidentally, I, too, have found that a large percentage of well built up packages need some treatment for swarm control in many seasons. Killing all colonies late in the fall, as the article describes, leaves the brood nest in fine shape for next year's bees.

Ideas on wintering have changed considerably the past few years, (page 398). With the increased emphasis on **big** colonies provided with a superabundance of honey and pollen, less attention is being paid to packing. Present trend to upper entrances for outdoor wintering is marked, and the need for pollen or a supplement to bring about heavy brood rearing is becoming widely accepted. But as regards sugar syrup for wintering, while not essential and requiring too much labor for extensive apiaries, it can make for good wintering. C. A . Pease of Connecticut has had very good results through its use.

Packing for winter pays (page 400). That assertion by Shirl Baker is in contrast to statements often heard of late. But in his case, the figures present a story too plain to be denied. In a milder climate perhaps packing is not essential, but here in Northern Minnesota the majority definitely believe in moderate protection, usually a tar paper pack covering a few inches of straw above the colonies. It saves honey and bees.

School time recipes, (page 402). Don't they make you wish you could be back in "school lunch days" again, and sample the products of Mrs. Nielsen's recipes? But then, you don't need to be back, there is a good chance of snatching at least a bite perhaps left over from filling those lunch boxes. Let's try!

A beekeeper in demand. That seems to describe Mr. Kramer's experience (page 404). His item is of

interest, and with a smile where the request for honey from the hornet nest is related. Many of us could tell of like incidents, but always remember that we all can be guilty of just as humorous mistakes on subjects strange to us. And take note of the Editor's caution—**don't use Cyanogas too matter-of-factly!**

Queens with wanderlust, as described in One Man's Opinion, can cause much annoyance and perplexity. Certain strains seem to be more apt to do this than others—a quiet one seldom leaves the comb.

Honeybees for pollination is one point that needs to be stressed strongly—we cannot emphasize their value here too much (page 407). Honey and wax are no small items, but the value of pollination activities is many times greater.

For factual information the government honey report should be filled for future reference (page 408). It is concise and gives a broad, overall view of conditions.

Wide spread apiary systems are becoming more common each year, and, as J. L. Byer says, do offer advantages. Except in localities dependable year after year, it offers one big inducement—insurance against a total crop failure. High speed trucks and new methods of beekeeping are encouraging the spread of this system (page 413).

The American Honey Institute has accomplished really remarkable results in getting people honey conscious in the comparatively few years since it began. Every dollar spent has been well spent. Let's take no chance of halting the good work, but contribute liberally for our own benefit. It is **our** organization.

Middle River, Minnesota

National Federation of State Beekeepers' Associations

This Federation formed at the National Beekeeping Conference in Chicago last January has around 4000 members from 20 states which have affiliated. The following committees have been formed and are functioning:

Legislation (Regional Representation on Beekeeping War Council): L. M. White, 2231 Humboldt Street, Portland, Oregon; D. C. Stahlman, Box 444, Buhl, Idaho; O. H. Schmidt, R. F. D. 4, Bay City, Michigan; Burel H. Lane, Trumansburg, New York; A. D. Hiett, 1117 Jefferson, Lynchburg, Virginia.

Honey Floor: Woodrow Miller, Colton, California, Chairman. G. G. Puett, Hahira, Georgia; O. H. Schmidt, R. F. D. 4, Bay City, Michigan

Honey Plant Improvement: W. E. Dunham, Ohio State University, Columbus, Ohio, Chairman. Dr. Norma E. Pfeiffer, Boyce Thompson Institute for Plant Research, Inc., Yonkers 3, New York; Frank C. Pellett, American Bee Journal, Hamilton, Illinois; M. J. Deyell, Editor, Gleanings in Bee Culture, Medina, Ohio; Glenn O. Jones, President, Iowa Beekeepers' Association, Atlantic, Iowa; R. B. Willson, John G. Paton Co., 630 Fifth Avenue, New York City.

Quality Honey: Donald H. Lee, Manager, Finger Lakes Honey Producers Cooperative, Groton, New York, Chairman. John W. Holzberlein, Jr., Grand Valley, Colorado; Walter Diehnelt, President, Wisconsin State Beekeepers' Ass'n., Menomonee Falls, Wisconsin; M. S. Stone, Superior Honey Company, Los Angeles, California; A. V. Dowling, 114 East North Street, Valdosta, Georgia; (Plus Secretaries or Presidents of State Associations.)

Uniform Caps for 60-pound Containers: Adolph S. Carm, 2049 Birchwood Avenue, Chicago, Illinois, Chairman; Maynard Beck, 510 Cedar Street, P. O. Box 7, Lansing 1, Michigan; R. F. Remer, Sioux City, Iowa.

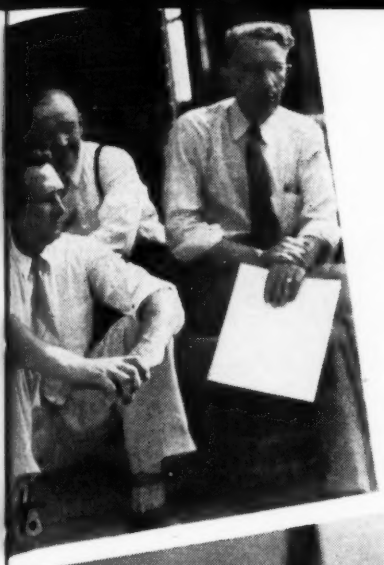
Research: Howard Potter ,Ithaca, Michigan (Swarthmore, Penn.), Chairman. E. J. Dyce, Ithaca, New York; H. B. Parks, San Antonio, Texas; O. Wallace Park, Ames, Iowa; Roy Grout, Hamilton, Illinois; J. I. Hambleton, Beltsville, Maryland (Advisory).

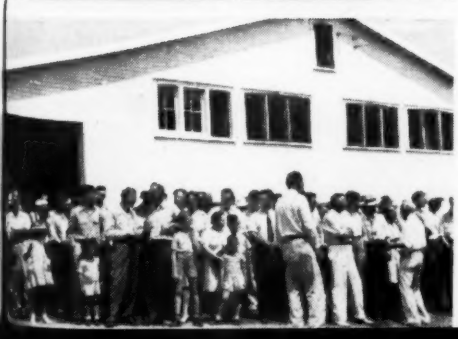
Beekeepers Rights: J. E. Eckert, Davis, California, Chairman. E. B. Everitt, 2445 Allen Street, Allentown, Pennsylvania; E. G. LeStourgeon, Editor, Beekeepers Item, San Antonio, Texas; Ralph W. Barnes, 711 North Thomas, Oakland, Nebraska; B. E. Montgomery, West Lafayette, Indiana, (Plus President of State Associations or other member designated by any of said associations.)

Convention Resolutions: J. F. Reinhart, Bozeman, Montana, Chairman. E. F. Phillips, Ithaca, New York; W. E. Anderson, Baton Rouge, Louisiana.

Convention Program: V. G. Milum, 104 Vivarium Bldg., Champaign, Illinois, Chairman, H. J. Rahmlow, 424 University Place, Madison 6, Wisconsin; Lewis Parks, Watertown, Wisconsin; Harold J. Clay, Special Commodities Branch, Food Distribution Administration, USDA, Washington 25, D. C.; R. L. Parker, Manhattan, Kansas.

Members of Beekeeping War Council: Roy A. Grout, Hamilton, Illinois; Alan Root, Medina, Ohio; J. H. Paton, 630 Fifth Avenue, New York, New York; R. F. Remer, Sioux City, Iowa; Regional Representatives of Federation (See Legislative Committee).





THE MICHIGAN MEETINGS

1. Part of the gathering at the Michigan State Beekeepers' meeting at Ithaca.
2. R. B. Wilson of the John G. Paton Co., Prof. R. H. Kelty, and Dr. Howard Potter, host of the Michigan meeting at Ithaca.
3. Donald Barrett, Michigan State Apiarist, and Frank Slusser of Traverse City, host of the Michigan meeting in that city.
4. Prof. R. H. Kelty of the Michigan State College, Floyd Markham of Ypsilanti, Mich., and Chas. Reese, State Apiarist of Ohio, relax on the steps of the American Legion Hall at Sylvania, Ohio.
5. Oscar Schmidt, President of the National Federation of Beekeepers' Associations, Maynard Beck of Lansing, Michigan, Mr. Floyd Markham of Ypsilanti, Michigan, and Mr. E. D. Townsend of Northstar, Michigan.
6. Pavilion at Burt Lake State Park at Cheboygan, Michigan.

XUM

From North, East, West and South

NO. CALIFORNIA, Sept. 5

Weather: California has little rain in the summer months to interfere with any of our industries. High up in the mountains the occasional thunder shower is not uncommon. In the Bay Area, we often hear the natives say, "We always have rain about September 15"; however, we have seen many September 15ths pass without rain. This year, August 30 gave us a very light shower. We will not be surprised to see September the most summerlike month of the year.

Condition of Bees: Bees are in good condition—plenty of pollen and good stores. The quality of our honey crop is unusually good, being of heavy body and light color. The crop is light, some trouble about extraction caused by the shortage of labor.

Beeswax: There is very little beeswax offered though the demand is good and the price satisfactory.

Miscellaneous: At the beginning of the season, the fine cooperative spirit of our beekeepers and the interest that tomato growers displayed toward learning the value of bees to general farming made us hopeful that our losses from the drifting of poisonous insecticides would be cut short this year. Unfortunately, the shortage of help on the farms has compelled the grower to use the airplane more than ever and the loss to the beekeeper is greater than any of the years that are passed. Thousands of colonies have been lost. Here comes a clipping in from the Fresno Bee stating that 1200 sheep were killed by cyanide gas applied to an olive grove. We can't help but wonder what would have happened if a home had been located in the same position as the sheep. This is but another example of the urgent need of a definite policy of controlling the use of all poisons in order to prevent their misuse.

One of our beekeepers lost 600 colonies just as the honey flow started. The University apiary has been seriously injured again this year, possibly to the extent of several hundred dollars and the loss of most of the effort that has gone into the experimental apiary for several months. Had the poisons been confined to the fields treated, the bees would not have been injured.

Now that the beekeepers' New Year is commencing and we make our plans for 1945, we should give serious attention to this poisoning question. Every beekeeper should become interested in the newly organized Honey Producers', Inc. Their success rests on the activity of the beekeepers. Education and cooperation will bring results.—Cary W. Hartman, Oakland, Calif.

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SOUTHERN CALIFORNIA, Sept. 2

Weather: Today finds Southern California weather going very much according to form. Taken as a whole the summer has been cooler than usual. A few quite warm days during the latter part of August remind us of what we usually have at this time of year. No rain has fallen in the valleys and very few thunder showers in the mountains.

Honey Crop: We have failed to hear a report of a good crop from any one of our numerous honey producing sources. Most of them have yielded a little and practically all beekeepers have taken some honey. Bees seemed to have gotten a good fill up in all sections and when not extracted too closely should have enough for winter stores and a build up for the spring honey flow.

Market: Demand at ceiling prices readily takes all honey and wax offered. Very little remains in the hands of the producer.

Miscellaneous: Talk about what a young man and woman can accomplish in a few years in the bee business. If you have not read "Fortune on the Wing," by Taylor in the July 12th **Post** you have missed one of the most interesting and encouraging articles we have read in years.

Fires and more fires. Grass and all kinds of vegetation took on a lib-

eral growth from our early rains. Then the long rainless period dried it until it is like tinder and when a fire gets started it is very hard to control. Many thousands of acres, some reports say one hundred thousand, of our grass and brush covered water sheds, much of it good bee pasture, have been burned over. Many homes in the valleys as well as summer homes in the mountains have been burned. Notices advising caution are freely posted but fire gets started in some way all too often and it will burn for days before being brought under control.

Short cuts in management have enabled many beekeepers to get by with the minimum of hired help. When we think of Stewart Harbinson, the dean of early California beekeeping and the methods he used, we marvel at the success he made. Hives were 12x12 inches square and 26 inches high, with handmade frames below and two pound handmade sections above. In 1873 he shipped his first carload of honey to Chicago and sold it for 27 cents per pound. In 1876 he shipped ten carloads to New York at one time.

Compare his methods and operations, with horse and wagon, poor roads and lantern light, and then think of ours: Factory built hives with sections and frames, truck transportation, electric lights and moving with no other preparation than a little smoke at the entrance, power driven extractors, steam or electrically heated uncapping knives. Yes, we have advanced. What will be next? Who knows?—L. L. Andrews, Corona, Calif.

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NEW YORK, Sept. 2

Crop Conditions: New York's white honey crop is very spotted. The flow started out with a bang in the western part of the state in early June but lasted only a very few days where alsike was the major honey plant. Basswood and second crop alfalfa gave a little surplus in July in some sections. Altogether the crop is far below normal.

Where the earlier flows were sufficient to keep brood rearing on a good level throughout the summer there has been a fairly good crop of buckwheat honey where that plant has been plentiful. But many apiaries approached the buckwheat flow in a weakened condition and have just about built up into good wintering condition.

Miscellaneous: I am quite optimistic about the part that Ladino clover may play in the future of New York beekeeping. We have a small patch of about three acres on which we have pastured five head of cattle all summer. Bees have worked it profusely for over two months and today, Sept. 2, bees are roaring on it and the field is white with bloom. —H. M. Myers, Ransomville, N. Y.

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TEXAS, Sept. 6

The Weather for August was a fitting end to a very dry summer. June, July, and 21 days in August created a desert out of a pleasant land. All that the bees were doing August 21 was carrying water and fanning to keep cool. The maximum temperature for 30 days had been above a hundred and then with little show of cloud or wind a nice cool shower of better than a third of an inch fell in about an hour; the second day after, another light shower; then two days and it rained slowly and steadily for five days. Only those who have seen rain come to the Southwest can picture the result.

Everything turned green over night, rain lilies gave great splashes of white, pink, and yellow to the landscape. In the hives on August 21st no eggs could be found and little evidence that fall brood rearing was at hand. In the fields broomweed was present as a half dead ground cover and white brush showed no sign of life. But on September 1st each hive was so busy that the worker bees ran into themselves in their anxiety to deliver loads of nectar and pollen and go for more. There were eggs in number and larvae floating in abundant royal jelly. Fall brood rearing had begun. This was just another fine illustration that fresh nectar and pollen from the field is the stimulus to egg laying.

Miscellaneous: The loss of weight per colony during the three months

of drought was about 10 pounds per hive. Some of this loss comes from the drying of the hives, fixtures, and even sealed honey. This is known by the former weight of parts of certain hives. No large yield is to be looked for in autumn, probably not more than ten pounds, mostly from broomweed, but that, with the leftovers from the spring flow, will take the bees through the short winter of the Southwest.—H. B. Parks, San Antonio, Texas.

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ONTARIO, Sept. 7

Weather and Crop Conditions: 50° above at 9 a. m.—which reminds us that winter is on the way and in so far as our locality is concerned, no more honey will be produced in 1944. Buckwheat has been almost a complete failure in parts of Ontario and only in Victoria County will we have any surplus to speak of from that source. So far as we can learn, the latter part of the white honey flow in most of Ontario was very disappointing and we believe that the honey crop in general will be much below that anticipated earlier.

Speaking with a representative of the Ontario Honey Producers' Co-Operative yesterday, I was told that the demand for honey was heavy and that orders were away ahead of those received last year at this date. And that made me think of comments made to me a short time ago by a representative of one of the well known can manufacturers. He said that instead of the beekeepers finding fault with the rationing of honey with all its admitted mistakes, they should thank the government for giving thousands of dollars worth of free advertising. His argument was that so much honey going into small containers at a time when all sweets were scarce was educating thousands of people to use honey who had hardly ever tasted it before. He stated that he had met many lately who had personally told him that this was true in their case. This is an aspect in connection with rationing of honey that we had not thought of, and possibly our friend may be right in his conclusion. At any rate, when we paste the next few thousand coupons in anticipation of the next monthly deposit of the sheets with our bank, we will think of the free advertising honey is receiving, which should help ease the monotony and bother of handling these coupons.

Miscellaneous: While the bulk of our crop this year has been taken to the Co-operative, the local demand has been away above our earlier anticipations. No effort was made to sell any honey, but rather we discouraged home sales, yet during the extracting season, more than 500 pounds was called for daily. While we did not welcome these sales so much this year, the home trade may be valuable in helping out the market in years of plenty, just as it was in years gone by.

With buckwheat crop a failure in many localities, the feeding bill is apt to be heavy with many this fall. We find our brood chambers lighter than usual, but in all apiaries where we will winter in two full-depth brood chambers the queen was placed below the excluder early in the white honey flow, and the upper story will be literally solid with honey and pollen.

From page 399 September issue of Gleanings, we quote the following in connection with the wintering of bees in a single story Langstroth hive (10 frame size in our apiaries): "Of course, the colonies would be relatively small." We wonder if that statement should not be modified a bit as we do not find it so in our experience. At the present time with supers removed, hundreds of colonies have bees in such abundance that if we had any way of separating the old from the young, we would gladly give away hundreds of pounds of bees. Enough bees for wintering is always in evidence with us, but sorry to say, sometimes there are not enough stores to winter some colonies, as almost every winter we have a few starve even after mentally resolving that "this will never happen again."

For two years now we have had a fair sized acreage of Ladino clover near one apiary. While bees are on this clover when it is in bloom, and it certainly blooms for a long period, we are sorry to have to report that we see little result in the supers and are forced to the conclusion that Ladino does not yield well in our locality.—J. L. Byer, Markham, Ont.

Spinster Jane Says

Extracting time is over once again and was the latest with us that it has ever been. For a season that looked promising at the start, it has been most disappointing. We had no pure clover honey whatever, due to the excessively dry season and the bees were forced to feed their brood from the small supply they were able to gather by dint of so much hard work. Then came too-frequent showers when it seemed impossible to pick a day when the bees would be flying and not all crowded over the frames, ready to fight robbers to the death.

Boy gets one day off each week, and that day it is sure to rain. One of the girls of the family begins her hoo-hoo-hooing like a loon when he comes home, because if it isn't raining just then, it surely will before he leaves. Finally he asked for three days leave. When he left Sudbury it was fine, but about half way home the rain began. All the first day it rained, and to make things worse, it turned freezingly cold. He was all for going back to work, but finally Scotch canniness told him he could get no more three-day leaves, so he stayed, and was rewarded by having two really fine days. It didn't take long to complete the job, either, as we hadn't a quarter of the honey of other years.

Now what to do to appease the certain wrath of our many fine customers, who must this year get little or no honey, is the problem. Boy tells everyone the honey is not so good as other years—that it may not keep well, as it seems not fully ripened. But does this discourage buyers? I'll say it does not.

A Happy Old Age

We are not yet old. "Three-score-and-ten" is no age limit in these days of vitamins and medical wonders. Though still no Methuselahs, men and women are living to a fine old age. To reach a hundred years is no longer thought of as phenomenal. I believe the big secret of a full and happy old age, is just to carry on as usual.

Perhaps your joints may creak a bit, and nature may urge you to resist work and take it easy, but don't give up! Idleness and soft living are deteriorating to youthfulness, and no one fancies becoming senile.

That is my creed and if you will Pardon my being personal, let me outline a little of my work, which is keeping me from any brooding over the bug-bear, old age.

Today I am past the one-time age limit. The word "seventy" means no more than "twenty" once meant.

As Clerk-Treasurer and Tax Receiver of our little (in population only) township, I keep my mind functioning as usual. In this capacity I meet and talk with many public people, and these contacts are mostly pleasant, and interesting. They brighten our jaded wits a bit. Again, as correpondent for our local paper I find I must keep alert and watchful, and for real pleasure, a bit of rhyming or the odd short story, which often I am lucky enough to be able to sell. Yes, my time passes as pleasantly as when I was back in the twenties.

Marking Colonies

But to return to our bees: The bee inspector laughed at Boy's lengthy bee records, and history of his queens, kind of colonies, etc., saying that with big apiaries this would be impossible. He had a method of marking hives, simple and plain. He uses thumbtacks. If extra good the tack is put at the top of the hive, if fair at the center, if poor at the bottom. In this way one can read the way colonies rate instantly—no looking into books necessary.

The Useful Are Needed

Kingbirds have worked havoc, Boy finding five queenless hives, due, we feel certain, to these bee-snatchers. In one or two colonies he found a queen and her daughter, carrying on peacefully, likely just before the elder royal lady swarmed out. I had thought that soon after emerging, the bees would have seen there was one queen too many, but no, the old queen was useful so was still needed. With queens, as with ordinary humans, it is the greatest satisfaction in the world to know one is needed.

Before long, we hope, and with good reason for so hoping, that a number of Europe's queens and kings may return peacefully to their people and their homes, where they are needed. We hope the blood of so many of our sons may not be in vain.

Editorials

Goldenrod and Aster These two plants are common throughout large areas of this continent and yield considerable nectar. While the surplus honey from these sources may not be considered of highest quality, it has a market. Furthermore, the bees fill up their brood chambers for winter stores. Goldenrod and aster have frequently been a life-saver for bees, when earlier sources fail.

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Sugar for Bees The Office of Price Administration has recently clarified the procedure whereby beekeepers can obtain sugar for feeding bees. Formerly only commercial beekeepers were authorized to obtain sugar for this purpose. The new Amendment permits any person who needs sugar for feeding his bees to obtain not to exceed 10 pounds per calendar year for each colony of bees. Each newly installed package of bees and each queen-mating nucleus is considered as being a colony.

If the beekeeper has used the 10 pound allotment and needs further sugar to prevent the loss of his bees, up to 15 pounds additional may be secured upon certification of these facts by the County AAA committee.

All applications for sugar for bee feeding should be made to the beekeeper's local War Price and Rationing Board on form R-315, keeping in mind that applications for emergency feeding (up to 15 pounds additional) must be accompanied by the certificate of the County AAA committee.

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The Honeybee Essential to Agriculture The beekeeping industry, an important branch of agriculture, has, during the years, been making steady progress. According to the honey report for July, 1944, there were 5,219,000 colonies of bees on hand July 1 this year which is an increase of about 7% over a year ago. Ten years ago, according to the United States Department of Agriculture, there were 4,410,950 colonies of bees in the United States which makes an increase of almost 19% in ten years. During these years there were some exceedingly dry seasons which reduced the number of colonies, temporarily at least.

Obviously, there is plenty of room for many more thousands of colonies throughout the United States as more bees are needed for the pollination of legumes, fruits, and vegetables. There has been a steady increase of per colony production of honey and wax during recent years which is due, in part at least, to better beekeeping practices.

Even though commercial beekeeping has suffered somewhat this past season because of large acreages of corn and soybeans which have crowded out the clovers, especially sweet clover, more clovers will be grown in the near future because they are needed to enrich the soil for producing larger crops. The honeybee is recognized more than ever as being essential to agriculture.

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Take Winter Bee Losses in the Fall During the years, there has been a tendency among beekeepers to maintain the greatest possible number of hives of bees. Most of us would like to be called big beekeepers.

There is a vast difference between a hive of bees and a real colony of bees. If we kept more real colonies of bees and fewer hives of bees, we would secure larger crops of honey.

Furthermore, if we have only real colonies of bees in the fall, rather than hives containing some bees, winter losses are likely to be kept down to the very minimum. In other words, to be successful in wintering bees, especially in the North, beekeepers must have something in their hives to winter.

As some writer brought out recently, winter losses should be taken in the fall. Obviously, much of the so-called winter losses of bees could be avoided by seeing to it that every colony that goes into winter is populous in bees—especially young bees, that the colony has an abundance of stores—honey and pollen—properly placed, and that an adequate amount of protection against the elements is supplied.

Eggs All in One Basket It was Benjamin Franklin who said something about the inadvisability of putting one's eggs all in one basket. The commercial beekeeper who has implicit faith in the future of our industry and depends wholly on bees for a livelihood has put all of his eggs in one basket.

This is a day of specialization. It seems preferable to do one thing and do it well rather than dabble into a number of things and half do them. This does not belittle or underrate the importance of backlot or sideline beekeeping. There are and always will be thousands of side-line beekeepers who make a worth while contribution to our industry. We need more beginner beekeepers, many of whom develop into some of our best commercial honey producers.

However, those launching out into commercial beekeeping, putting all their eggs into one basket, should make sure of securing a good beekeeping location, a region where nectar and pollen plants are plentiful, and, barring unfavorable weather conditions, are dependable for a crop. Such locations may not be so plentiful at present.

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Floor Price for Honey With the prospect of an early conclusion of the European War many commercial beekeepers as well as honey packers are thinking in terms of the post-war price on honey. Few members of the industry fear an immediate fall in the price of honey but all fear some drastic revision in the price some time in the future.

It is hoped that some form of a price support plan as permitted under the Spegel Amendment of 1941 will be adopted by the War Food Administration. Such a program would materially soften the depression in the price of honey and prevent the damage to the industry that could otherwise be expected.

While the government is not necessarily concerned with what happens to the individual honey producer it is concerned with what happens to the honeybee because of its importance to the legume seed program through the pollination function the bee performs.

Most farmers resent and fear government interference and regulations but in this case we are wondering whether or not some help will have to be sought to bring the war stimulated honey industry safely through the post-war period.

Note: See Gleanings page 535 September 1943; March 1943 Gleanings Page 151 and Page 164.

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Honey Plants a Worthy Project for Beekeepers' Associations Within the past few days, while in conversation with a practical commercial beekeeper, we asked him what he thought should be stressed editorially in bee journals at present. Without a moment's hesitation he replied in substance, "We should try to get farmers more interested in growing clovers, especially sweet clover, which is so beneficial to the soil, also to beekeepers."

It does seem as though the problem of bee pasture, or lack of sufficient bee pasture, is one of the biggest problems that faces our industry at the present time.

The Honey Plant Committee appointed at the National Beekeepers' Conference in Chicago last winter has been doing some good work. Dr. W. E. Dunham of Ohio State University, Bee Extension Specialist for Ohio, is chairman of this Committee which is scheduled for a meeting in New York City.

County and state beekeepers' associations could and should get behind this honey plant project. In fact, this could be made a very worthy objective that would tend to create a greater interest in beekeepers' associations.

A Honey Plant Committee could be appointed in each association and ideas from members submitted to the chairman. Honey plant committees could keep in touch with farm bureau agents and those in agriculture having to do with crop rotation. Beekeepers could submit items to local newspapers concerning the value of honeybees to agriculture.

The honey plant situation has become serious for quite a number of commercial beekeepers. Legumes must be restored if food production, so necessary at this time, is to increase. Beekeeping will not be what it should be until agriculture is restored to its proper status. The growing of more legumes, including sweet clover, will help materially to achieve this goal.

XUM

Just News

The Middlesex County Beekeepers' Association will meet indoors at 7 P. M., on Saturday, October 28, at 19 Everett St., Concord, Massachusetts. Mrs. Harold R. Stevens, President of the Ladies' Auxilliary, announces a supper featuring American chop suey, escalloped potatoes, homemade honey bread with comb honey, homemade pickles, green salads, honey apple and squash pies, and coffee. A. M. Southwick, Pres.

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The Greater Vancouver Division of the British Columbia Honey Producers' Association will hold its 9th annual meeting at 198 West Hastings Street, Vancouver, B. C., on November 21, at 8 p.m.

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The Minnesota Beekeepers' Association will hold its annual winter meeting at the Curtiss Hotel, Minneapolis, October 10 and 11. Mr. F. E. Pellett is to be one of the principal speakers. The Minnesota Horticultural Society is holding its meeting at the same time and place. As many beekeepers are horticulturists it should make a happy combination, particularly as the programs will be arranged for some talks to be given to the combined groups.—A. G. Ruggles, Sec.

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The annual convention of the Alberta Beekeepers' Association will be held in Edmonton, November 9 and 10.

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Word has just been received from George Lotz Company, Boyd, Wisconsin, whose factory was destroyed by fire recently that they are going ahead and rebuild a new plant. Work is expected to be started in the next 10 days. Fortunately neither the warehouse nor the lumber stocks were destroyed by the fire.

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The annual meeting of the Iowa Beekeepers' Association will be held at Ames, Iowa, on November 16 and 17. Post-war problems will constitute the program. Honey plants, colony management, beekeeping supplies, and marketing are the topics proposed for discussion. A single topic will be presented in each half-day session by three discussion leaders.—F. B. Paddock, Extension Apiarist.

The next regular meeting of the Bronx County Beekeepers' Association will be held at the home and apiary of Mr. W. L. Jones, 1727 Undercliff Ave., Bronx, N. Y. C. on Sunday, October 8th at 2:30 p. m. —Harry Newman, Sec.

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PROGRAM SOUTHERN BEEKEEPING STATES FEDERATION, O'HENRY HOTEL, GREENSBORO, N. C.

October 25, Morning Session at 8:45

"What the Conference Means to Southern Producers." President, P. G. Craddock.

"Post War Plans for the Industry", Dr. James I. Hambleton, Bee Culture Laboratory.

"Transporting and Installing Package Bees," G. C. Puett, The Puett Company, Hahira, Ga.

"Can the Early Supersedure of Shipped Queens be Prevented?" Morley Pettit, Tifton, Ga.

Afternoon Session at 1 p. m.

"Honey and Beeswax in the Post War Period," H. H. Root, The A. I. Root Company, Medina, Ohio.

"Dyce Processed Honey," Dr. E. F. Phillips, Cornell University, Ithaca, N. Y.

"Co-Operative Packing and Marketing of Honey", T. W. Burleson, Waxahachie, Texas.

"Producing Productive Queens", E. C. Bessonet, Donaldsonville, La.

"Fifty Years of Beekeeping", George H. Rea, University of Tennessee, Knoxville, Tenn.

Banquet at 8:00 P.M., Lynn M. Dewey, Toastmaster.

Beekeeping Movies, H. H. Root.

October 26, Morning Session at 9 a. m.

"Expanding Our Honey Program", Mrs. Harriet M. Grace, Director, American Honey Institute.

"The Future For Improved Queens", M. G. Dadant, Dadant & Sons, Hamilton, Ill.

"How to Pack Honey for Better Sales", Robert W. Lane, Greeneville, Tenn.

"Our Big Honey Shows," George J. Abrams, College Park, Md.

"Beekeeping as a Hobby", Dr. R. E. Dunston, Greensboro, N. C.

"Increasing Seed and Fruit Production With Bees", Prof. A. H. Teske, Blacksburg, Va.

"Our Limit in Packages", Jasper Knight, Hayneville, Alabama.

Afternoon Session at 1:15 p. m.

"Present Status of Government Regulations That Affect Beekeepers", Harold J. Clay, U. S. Department of Agriculture, Washington, D. C.

"Will the Small Beekeeper Have His Day?", E. G. LeStourgeon, Editor, Beekeepers Item, San Antonio, Texas.

"The Nutritive Value of Honey", Miss Myra Reagan, Nutritionist, War Food Administration.

Pictures and Lecture—"Some Southern Honey Plants", Prof. David Dunavan, Clemson College, South Carolina.

"Georgia Beekeeping", A. V. Dowling, State Inspector, Valdosta, Ga.

"What Would You Do?"—Questions and Answers, A. D. Hiett, Field Representative, G. B. Lewis Company.

Asked and Answered

Uniting Weak Colonies

Question.—I have two hives of bees one with four frames and one with two frames of bees. I realize that these bees can't go through the winter the way they are. What would you do with them?—D. C. Cavnar, Okla.

Answer.—It would seem feasible to unite your two weak colonies of bees. To do this, remove the bottom board from one hive, then set this hive on top of the other weak hive of bees, placing one thickness of newspaper between the two hive bodies. Make a few small holes with a lead pencil through the paper to permit air to circulate in the upper hive. The two lots of bees will unite gradually as the bees gnaw away the paper. One queen will be retained and the other disposed of by the bees. They will look after that matter. It may be necessary for you to do some feeding of sugar syrup especially if there is little nectar coming in.

Chasing Bears from the Apiary

Question.—A friend located on Basswood Lake at the Canadian border in the midst of a ten mile clover belt, wants to know how to protect an apiary from black bears.—Wm. B. Bartels, Ills.

Answer.—Various methods have been used to protect apiaries of bees from bears. One of the best we have heard of was used somewhere in Oregon. The owner of the apiary had an electric wire stretched around his yard. He then retreated quite a distance from the apiary on the windward side, climbed up a tree so that he could get a good view of what happened. In due time, Mr. Bear approached the apiary, put his nose up against the wire, backed up suddenly, then reared up on his hind legs after which he ambled off into the woods.

Bad Effects from Bee Sting

Question.—What should one do for a bee sting, when it poisons one, so much that it causes asthma, red blotches, itching terrifically, red eyes, and swelling? It lasts for two hours before we can get the upper hand of it. That is the way it affects our daughter.—G. L. Savage, Maine.

Answer.—Cases such as you mention are very rare indeed. If and when your daughter is stung again she should apply hot applications, call a physician and if he does not know how to treat it, tell him to give her hypodermic injections of Epinephrine (formerly known as adrenaline). This is given in a one-to-one-thousandth solution. In the mean time apply hot water applications, applying often not only where the sting was received but also wring a blanket out in hot water and wrap your daughter in it.

Do Bees Damage Grapes?

Question.—A neighbor claims that my bees are damaging his grapes. Will you kindly advise if honeybees do injure grapes?—M. E. Wright, New York.

Answer.—You may tell your neighbor that bees do not and cannot puncture grapes. This statement has been proven definitely. Bees may suck the juice out of grapes after the skins of the grapes are cracked open, or punctured by certain birds.

Heating Honey for Bottling

Question.—Would like some advice in handling extracted honey. Should it be all heated before bottling, and how hot should it be heated? Some beekeepers tell me that they put it right on the stove and heat it by direct heat. Is this advisable? —Vernie Fossan, Minn.

Answer.—Honey is usually heated in 60-pound cans placed in a wash boiler of water, or larger container, the cans of honey resting on small pieces of wood to prevent the bottoms of the honey cans from coming in direct contact with the bottom of the tank. The water is heated, the honey is stirred and brought to a temperature of 150° or 160° Fahr. You should have a mercurial thermometer. The honey should not be kept at this high temperature too long, possibly 10 or 15 minutes. The honey is then strained through two thicknesses of fine cheese cloth into a honey tank and after it has had a chance to settle, it is put directly into jars and the caps put on the jars while the honey is hot. This takes care of honey in small lots.

Analysis of Pollen

Question.—Do you have a chemical analysis of pollen? Has its vitamin value been determined?—Arthur M. Rawers, Ills.

Answer.—The latest analysis of pollen collected by bees was made at the University by A. E. Vivino and L. S. Palmer. (Archives of Biochemistry, Vol. 4, No. 2, May, 1944, "The Chemical Composition and Nutritional Value of Pollen Collected by Bees"). You may obtain the reprint by writing directly to Dr. A. E. Vivino, Georgetown University, School of Medicine, Department of Pharmacology, Washington 7, D. C. —M. H. Haydak, University of Minnesota, St. Paul.

Talks to Beekeepers

By M. J. Deyell

Winter on the Way

Within the week we received a letter from a beekeeper in South Africa in which he mentioned the fact that spring was approaching in that country and early nectar would be gathered in October. That, of course, is just the reverse of what occurs in this latitude. I suspect that if one or more hives of bees were transported by plane from here to South Africa, the bees would react readily to conditions which prevail there. It would seem too bad to have the bees put in so much overtime and to cheat them out of their long winter's rest here in the North.

In this area bees are getting nectar from goldenrod. When the nights are cool bees will store considerable nectar in the brood chambers, rather than supers and that is as it should be. Bees will provide for their own needs if given a chance. They seem to know that winter is around the corner. They place honey and pollen in combs of brood chambers in such a manner that the stores will be available as needed during the winter and early spring months.

Pollen For Future Use

It is interesting to note how the bees store surplus pollen. This pollen is usually placed in the lower chamber of a double brood chamber hive. The cells are about half filled and in many instances the pollen is then covered up with honey. As the honey is consumed later during the winter and early spring, the pollen becomes available for the bees. This pollen is doubtless as good as it was the day it was stored in the cells. What a marvelous provision for the future!

During the chilly days of spring, when bees are unable to collect pollen from natural sources, a normal colony with an abundance of boney and pollen is able to proceed with brood rearing even though the bees are kept in the hives, temporarily, due to cold weather.

Do Not Disturb Brood Chambers Late in the Fall

Some beekeepers think that they can exchange combs and tinker with brood chambers late in the fall. This is a mistake. Such tinkering may result in the loss of bees, because they are unable to rearrange the brood nest to their liking, especially after cold weather sets in. Farther south, where warm spells occur, bees would be able to adjust themselves to faulty hive manipulation.

As stated in a previous talk, it seems to be a distinct advantage to have the combs in the upper brood chamber, commonly called food chamber, completely filled with honey, so that there is less danger of the cluster of bees, as it moves up slowly during the cold winter months, running short of stores.

We have noticed an unusual amount of pollen being collected by the bees in this area. This is likely a good omen. It will be needed for fall brood rearing, also for brood rearing early next spring. We had a letter from a beekeeper in New York State saying that pollen in that vicinity was very scarce, in fact, bees were dwindling in strength, due, presumably to a shortage of pollen. There may be other regions suffering in like manner. It would seem that feeding a pollen supplement is the only way to meet the situation. Due to the abundance of pollen around Medina we have not had occasion to try pollen supplements, but intend to do so in the near future. We now have a pollen trap in use to secure pollen to mix with soybean flour, four parts flour with one part pollen. Bulletin E-531 available at U. S. Department of Agriculture gives details. If trapped pollen is not available four parts soybean flour with one part skim milk, mixed with a heavy sugar syrup to form a paste to be placed on wax paper, in one pound lots, directly over the brood chamber, may be used. For further details write University of Minnesota, St. Paul, Minn., c/o Prof. M. H. Haydak.

A Queen Killed Instantly

In earlier talks this year I mentioned producing queens from good stock, in 5-frame nuclei, to have available when needed for requeening, also to carry over the winter, if possible, to have on hand early next spring, at which time it may be a little difficult to get queens from the South. We now have over 75 such queens.

The other day we had occasion to remove a queen with two frames of brood, from one of these nuclei, to put into a queenless colony. Our double nuclei boxes are made with a tight fitting division board which extends about ⅜" above the top of the hive. Regular inner covers are sawed in two and each half fits up tightly to the tight fitting division board. Well, I very foolishly removed both inner covers and while I was manipulating the combs containing the queen taken from the nucleus nearest to me, she fell off the comb and dropped into the other nucleus hive. Before I could recover the queen the bees had her killed, as dead as a door nail. I didn't suppose a queen could be stung to death so quickly. That experience taught me a lesson. It is well to have only one nucleus open at one time.

At present most of these nuclei are quite populous with bees, each having brood in four combs. It seems important to get nuclei established quite early in the season, at least during the major honey flow so that they may be reasonably strong in young bees when cold weather sets in. We hope to winter most of these five frame nuclei in a bee cellar. We may try wintering some of them out-of-doors with additional protection from the elements. Such nuclei are wintered at the Experimental Apiary, Ottawa, Canada.

Bees Working in the Rain

We have two populous colonies just west of our Gleanings office. These colonies serve as a barometer of what is going on among the bees nearby. This saves considerable time on my part. Well, the other day a heavy shower came up rather suddenly. I looked out through the door and noticed quite a number of bees coming in through a heavy rain. Apparently, the rain did not daunt them. A few bees appeared to be flying out of the hives to the fields. Just prior to the rain, the bees had been carrying nectar, so I presume they hated to stop work, but why would they be going out to the field when the rain would dampen the nectar plants and shut off the honey flow? Perhaps some one can tell me.

It seems that bees can stand a considerable amount of water. For many years we maintained a queen mating yard near Medina under the management of Mr. Mell Pritchard, who passed on recently. We used to carry bees from out-apiaries, in empty ten-frame hive bodies, screened top and bottom, to Mr. Pritchard, to be used for making queen mating nuclei boxes.

During a honey flow the bees would be covered with fresh nectar, in fact, they would frequently lie at the bottom of the box in a solid mass. Mr. Pritchard would take these boxes of bees down to a creek near by and hold them under water for a time, then souse them up and down in the water, to wash the nectar from the bees. Anyone watching him holding the bees under water would think that some of the bees would be drowned. Of course, the bees would dry off in due time and later on would be used for making up mating boxes.

Weight of Two-Story Colonies For Winter

Some authorities say each colony in a two-story, 10-frame Standard hive in the North should have a gross weight of 120 pounds. We have found from experience that a colony weighing this much usually has sufficient honey to last until nectar from natural sources is available the following season.

However, during certain seasons, such hives may run along on rather scant rations during the spring months. On the other hand, we have observed that two-story colonies weighing 135 or 140 pounds always have an ample amount of honey during the spring months and are very populous in bees ready for the honey flow. It will pay, therefore, to err on the side of safety by having a little too much rather than too little honey. If each colony has somewhere between 50 and 60 pounds of honey late in the fall, they should have enough.

Easy Way to Make Spring Increase

It is difficult to maintain a certain amount of hives in each apiary. Most beekeepers count on getting packages of bees in the spring. Another way to solve this problem is to winter about 25% of the colonies in three-story hives. The extra super of honey will result in plenty of bees and brood the following spring. A super containing bees, brood, honey, and pollen may be set off on a bottom board and given a queen and hive cover during fruit bloom.

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OFFERING two tons dark amber honey, in round screw cap honey jars, in lumps as follows, 4 cartons of one pound jars, 24 jars to the carton, 96 jars; 3 cartons of two pound jars, 12 jars to the carton, 36 jars; 2 cartons of three pound jars, 12 jars to the carton, 24 jars. Net weight of the above nine cartons, 240 lbs. Here is the surprise: You can buy this lot of honey at only 12 cents per pound $28.80 for the above nine cartons, on track in New Jersey. Act quick. Address your order to TOWNSEND SALES COMPANY, Northstar, Michigan.

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Albert Koehnen
Live Oak, Calif.

NORTHERN-BRED Queens. Hardy honey producing Italians, $1.00 each. Shirl Baker, Rodney, Michigan.

FOR SALE—50 colonies bees in new M. D. hives with crimp-wire foundation. R. B. Craft, Zearing, Iowa.

IMPROVED ITALIAN Queens, 80 cents, from a strain that produced over 600 pounds per colony. Henry Loehr, Caldwell, Texas.

FOR SALE—40 colonies, 10 frame hives, several supers with honey, first class condition, guaranteed free of disease. ANTON JUX, PURCHASE, N. Y.

FOR SALE—500 colony outfit (disease free) tens and eights. Excellent package-honey location, $9 each. Also dwellings and buildings, if desired. J. W. Lunsford, Egypt, Ga.

FOR SALE—100 colonies of bees in 8 and 10 frame hives and equipment of 300 shallow frames. Bees inspected last season and found free from disease. C. A. Johnson, Ogilvie, Minnesota, Rt. 1, Box 133.

THREE-BANDED Italian bees and queens finest quality. Package bees, 2-lb. and queen, $3.50; 3-lb. and queen, $4.50; select untested queens, 1-25, $1.10; 25-100, $1.05; 100 up, $1.00. Health certificate with every order. Alamance Bee Co., Graham, N. C.

FOR SALE—86 colonies of bees in ten frame hives with large amount of equipment in Western Ohio. Over 50% in three story hives. Certificate of health furnished at time of sale. Write to R. E. Sauerbry, 166 Courtland Street, Elyria, Ohio.

FOR SALE—600 colonies of bees, with equipment, painted and factory made. House, honey house, stable. Certificate of inspection furnished. Also includes profitable sideline. Good reason for selling. Box 3003, Gleanings in Bee Culture, Medina, Ohio.

FOR SALE—230 colonies bees with locations in Pennsylvania, 120 8-frame with double brood chambers, balance 10-frame colonies with full extracting equipment; 90% combs wired both vertically and horizontally. No disease. W. C. Long, 1325 Andre St., Baltimore, Md.

THE NORMA ROY APIARIES. We are booking orders for spring delivery. No deposit required. Italian bees — 2 pounds with queen, $3.25; 3 pounds with queen, $4.00. Queenless packages, deduct 70c. Live delivery and health certificate. Norma E. Roy & Son, Hessmer, La.

FOR SALE—500 eight-frame standard colonies, 800 supers of combs, good Caucasian stock, young queens, plenty of stores. This is a nice lot of bees, never had disease, all 4 wired combs, brass eyelets. Price, $10.00 per hive, all or part. You haul them or will load cattle cars if desired. Nealey Honey Co., Aberdeen, Idaho.

MISCELLANEOUS WANTED

WANTED—15 supers with drawn comb, Maurice Foshey, Brushton, New York.

BEE VENOM

WANTED—Regular supply of pure Bee Venom for medicinal purposes. Quote price, regular quantities available and delivery dates. Research Drug Company, Dept. GBC, 100 Fifth Avenue, New York, 11, New York.

MAGAZINES

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy free. Yearly, 7s. 6d., International Money Order. Apply Editor, Indian Bee Journal, Jeolikote, Dist. Nainital, U. P. India.

READ the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars write to the Hon. Treasurer, P. O. Box 43, Cleveland, Johannesburg, S. Africa.

WESTERN CANADA BEEKEEPER, official organ of the Manitoba Beekeepers' Association, one year $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $1.75. Wallingford Building, Winnipeg, Canada.

MANY BEEKEEPERS have proven raising fox, mink, nutria, muskrats, rabbits, highly profitable. Send dime for sample copy. Canada's oldest fur farming magazine tells how. Fur Trade Journal of Canada, Box 31, Toronto 2. Ontario.

THE BEE WORLD—The leading Journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free, 12 cents stamps. Membership in the Club, including a subscription to the paper, 10/6. The Apis Club, L. Illingsworth. The Way's End, Foxton, Royston, Herts, England.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser. Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat industry. Subscription—$1.50, Sample copy—fifteen cents.

Jensen's

"Magnolia State" Strain Italians
PACKAGE BEES AND QUEENS

Now booking orders for 1945, and indications are the demand will far exceed the supply.

We are going right ahead with preparations to handle a larger volume than ever before, and to supply the greatest possible number of our old customers, and new ones fortunate enough to get their orders in on time.

With many additional colonies and all of them in the finest condition possible, all with young queens and an abundance of stores, we will have bees, and more bees. With acquisition of a splendid new building, our facilities are greatly improved.

Pending further developments, we are booking orders at 1944 prices and putting deposits to proper credits.

Jensen's Apiaries
Macon, Miss.

THANKS

—for your many fine orders during the past season. We appreciated your patience and consideration when we we were having difficulty in securing merchandise. We are looking forward to bigger and still better sales next year because of the big demand for clover seed and fruit. Bees must produce in large quantities.

ROOT QUALITY BEE SUPPLIES prove their leadership through increased sales.

(WE HAVE GOOD STOCKS OF HONEY CONTAINERS)

A. I. Root Co., of Chicago
224 W. Huron St., Chicago 10, Ill.

A. I. Root Co., of Indianapolis
121 N. Alabama St., Indianapolis 4, Ind.

A. I. Root Co. of Syracuse
1112 Erie Blvd. East, Syracuse 3, N. Y.

A. I. Root Co., of Iowa
Council Bluffs, Iowa

YORK'S PACKAGE BEES AND QUEENS

QUALITY BRED ITALIANS

The rush for package bees has ceased for the season. Our greatest handicap was the long drawn out rainy season all spring, plus the help shortage which delayed shipping to some extent, and we are very sorry this had to happen. A large number of orders had to be returned as we were booked up by early spring and in no position to accept further orders.

Some have already booked orders for 1945 and others are requesting information on early booking. To this, we are willing to book your order now subject to prevailing prices in the spring of 1945. We are not urging you to book now, but it may be advisable to do so as the trend seems to indicate an early sell out.

For the balance of this season we will continue to supply a limited number of packages of bees and queens at following prices.

Untested Italian Queens .... $1.10 each
2-lb. pkgs. of bees with queens $3.65 each
3-lb. pkgs. of bees with queens $4.75 each

Prompt Shipments

York Bee Company

JESUP, GEORGIA. U. S. A.

(The Universal Apiaries)

QUALITY BRED ITALIAN

QUEENS

85c Any Quantity

THE PUETT COMPANY

Hahira, Ga.

WINTERING IN MASSACHUSETTS

(Continued from page 436)

5. Stone or brick on outer cover to hold it in place.
6. A good windbreak is of considerable advantage, as bees are able to make short flights during bright sunny days in winter, where otherwise they might be confined to their hives.

Last winter upon visiting one outapiary of 14 colonies located in a sheltered spot in a pasture surrounded by cedar and scrub brush, I found that the owner had become ambitious and had cleared the whole area. This was Jan. 1 and there was no snow protection either but being unprepared to move them at this late date, I left them to see what would happen. Exposed to winds from all directions, these colonies came through the winter in fine condition. A protection of slater's felt would have been useful under such conditions, for some ice formed inside the hives on the north side. However, with the upper flight hole to allow excess moisture to escape, the bees suffered no material damage.

Holliston, Mass.

NORTHERN BRED

Leather Colored Italian Queens from stock bred for resistance
(Our own strain)
$1.00 each

DIEMER BEE CO.
Liberty, Mo.

Mountain Gray Bees

PLEASE NOTE: We are sold out on queens for 1944 and until May, 1945. Thanks a lot for your cooperation.

BOLLING BEE CO.
Bolling, Ala.

QUEENS—ITALIANS—QUEENS

Our stock is bred and selected to assure the highest quality possible. Compare them with any queens on the market and be convinced of their superior qualities.

Prices: 1-24, 90c; 25-99, 85c; 100-up, 80c each.

BESSONET BEE COMPANY Donaldsonville, La.

BETTER-BRED QUEENS---Three-Banded Italians

Queens, 75c each. October is the last month we can make shipments

CALVERT APIARIES, Calvert Alabama

She knows something of timely interest to every *BEEKEEPER*

THIS is Mrs. Average American Housewife. She buys the family's food. So naturally she's the person who buys the family's honey.

About this honey buying, she could tell every Beekeeper these days some interesting and pertinent facts.

She could say, for example, that she's especially fussy when it comes to selecting honey to take into her home.

She has learned through sad wartime experience that not all honey measures up to the standard she insists upon for table use.

She's tried these inferior honeys. She's found them lacking both in quality and flavor.

So now she's making up her mind to one thing. Unless she can get the reliable, high-quality, branded honey to which she's accustomed, she guesses she'll just have to do without.

Reputable Packers Have Spent Fortunes To Educate Mrs. Average Housewife

For many years now, reputable Packers have spent tens of thousands of dollars in advertising and promotion to educate Mrs. Average Housewife to use good honey, and lots of it, in her cooking and on her table.

These Packers have built a big, steady and permanent market for good honey. A market upon which the very future of the industry must depend if it is to continue to prosper.

They have taught women to have confidence in the fine honey that has come to them under famous Packers' labels.

But now these Packers are smack up against a condition which only you, Mr. Beekeeper, in your own best interests, can help them solve.

Sell Your Honey To A Reputable Packer So Mrs. Housewife Will Keep On Buying

Here's the situation. Mrs. Housewife will stop buying honey unless she can get good honey. Reputable Packers cannot furnish her good honey, unless they can obtain that good honey from you.

This is a situation that every Beekeeper, with his eye to future good prices and good sales, should act upon . . . and act upon now.

Never in the history of the industry was cooperation between Beekeeper and reputable Packer more important than today. Never has been a time when such teamwork would pay such big, future dividends.

Won't you, therefore, Mr. Beekeeper, as a wise business man, take the time right now to do this: Write to one of the reputable Packers listed here. Tell him how much honey he may expect from you at once. Send samples. You'll get top ceiling prices. And you'll underwrite your own future prosperity better than you can do by any other method.

Cooperate Now With These Leading Honey Packers:

C. W. AEPPLER COMPANY
Oconomowoc, Wis.

T. W. BURLESON & SON
Waxahachie, Texas

B-Z-B HONEY COMPANY
Alhambra, California

H. J. HEINZ COMPANY
Pittsburgh, Pa.

THE JOHN G. PATON COMPANY, INC.
New York City

THE SIOUX HONEY ASSOCIATION
Sioux City, Iowa

SUPERIOR HONEY COMPANY
Los Angeles, Calif.

PETTIT'S SUMMER QUEENS

Available through September only,
Prices,
1-24, 90c; 25-99, 85c; 100 up, 80c

We are more than half sold out of package bees for 1945, subject to prices in November.
Better Hurry!

• • •

MORLEY PETTIT
Tifton, Georgia U. S. A.

Closing for Winter

• • •

Three-Banded Italian Queens
80c each any number
While they last.

• • •

JOHN C. HOGG
Tifton, Ga., U. S. A.

HELP YOURSELF

And us by requeening this fall. As one of the few remaining Northern queen breeders we cannot always promise good queens early in the spring, but in the fall we produce large numbers of our finest queens during the buckwheat and goldenrod honey flow. A good young queen now just about insures next season's honey crop. Prompt delivery of honey gathering Italian stock.
Untested, 1-9, $1.00 each;; 10-24, 90c each; 25-100, 80c each; 100 and up, 75c each. Young tested queens, $2.00 each. Safe arrival and satisfaction guaranteed of disease free stock.
WHITE PINE BEE FARMS
Rockton, Pa., L. B. 80

CARNIOLANS
CAUCASIANS

Both races very gentle, prolific, good winterers, wonderful workers. We can still supply a few queens of these excellent races this month. Prices: **Untested queens, $1.00 each. By Air Mail 6c extra per queen.**
ALBERT G. HANN
Glen Gardner, New Jersey

BUY U. S. WAR BONDS AND STAMPS

Send for free catalog—hundreds more!

—GOT A HOBBY?—

Keep up with the latest developments in your field. Here's a group of magazines that specialize in a particular subject! Send your subscription today!

Gleanings in Bee Culture, $1. per year
Beekeepers' Item, $1.
American Bee Journal, $1.

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American Dairy Goat News, m., $1.
Dairy Farmers' Digest, $1.
Dairyman's Journal, 35c
Dairyland News, s.m., 50c

FARMING
The Country Book, quarterly, $1.
Farmers' Digest, m., $2

FRUIT
Better Fruit, m., $1.
Eastern Fruit Grower, $1.

LIVESTOCK
Berkshire (Hog) News, m., $1.
American Cattle Producer, $1.
Southeastern Cattleman, $1.
Pacific Stockman, $1.
The Sheepman, $1.
Arizona Stockman, m., $1.50
Plantation Stockman, m., $2.
Coastal Cattleman. m., $1.

HORSES
The Chronicle, weekly, breeding, fox hunting, racing, horse shows, $5.
National (Saddle) Horseman, $5.
The Horse, bi-monthly, breeding, schooling, training, horse sports, $5.
Thoroughbred (Horse) Record, w., $4.
Rider & Driver, m., horse-sport-pleasure, $3.50
Spokesman & Harness World, m., $1.
NRA Round-Up, m., (rodeos), 50c

PIGEONS
American Pigeon Journal, Squab-fancy, $1.50
Pigeon News, fancy only, $1.50

RABBITS
Small Stock (rabbits, cavies), $1.
American Rabbit Journal, $1.
American Small Stock Farmer (rabbits only), 50c

OTHER SPECIALTIES
The Soybean Digest, $1.50
New Agriculture (sugar beets only) $2
Small Com. Animals & Fowls, 50c
Co-operative (Farmers) Digest, $2.
Southern Sportsman, Q., 12 issues $1.50
Mountain Music, m. fox, coon-hounds, $1.50
Modern Game Breeding, m., pheasants, $3.
The Home Worker, bi-monthly, $1.
Black Fox Mag., m., fox, mink, $2
Snap Shots, m., photographers, $1.
Writers' Markets & Methods, m., $2.
Frontiers (natural history) 5 issues, $1
Southern Literary Messenger, b-m.,$1.
Stamp Review, monthly, 2 years, $1.
Canary Journal, m., $2.
Ozark Guide, Rayburn's, b-m. $1.
Homeworker's Friend, m., $1.
Mail Sale Advertiser, m., .25
Natural Amat. Minerologist, m., $2.
Ozark Mountains Republican, w., $1.50
Canary World, m., $1.25

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Sample copies at single copy prices.

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Not excelled for quality, strength and workmanship

Satisfaction Unconditionally Guaranteed

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BUY YOUR CONTAINERS
from
OUR COMPLETE STOCK

UTILITY GLASS JARS:

Made according to Government specifications of clear flint glass with white coated metal caps.

10-lb. jars—case of 4—...45
5-lb. jars—case of 6—...42
2-lb. jars—case of 12—...42
1-lb. jars—case of 12—...38
½-lb. jars—case of 48—$1.28

SIXTY POUND CANS:

Well seamed and soldered, equipped 2½" wax board line caps.

Box of two 60-lb. cans....$1.00
60-lb. cans in bulk, each .32
60-lb. cans per carton of 24 7.44

COMB HONEY CONTAINERS:

Comb honey shipping cases, window cartons and cellophane bag and flat style wrappers for all size sections. Write for prices.

LABEL SAMPLES AND PRICES MAILED ON REQUEST

We still have a complete line of sections, foundation and wooden beeware.

August Lotz Company

Manufacturers of Bee Supplies
Boyd, Wisconsin

Look for this Sign
QUALITY at LOW COST
When You Want

Trade Mk. Reg. U. S. Pat. Off.

KELLEY—"The Bee Man"

ITALIAN QUEENS

PRICES

75 cents each any number.

POSTPAID

Prompt Shipment from Paducah

MAIL YOUR ORDER NOW

THE WALTER T. KELLEY CO.

Paducah, Kentucky

REQUEEN NOW

When you get your honey crop off and your bees are still gathering a little is an ideal time to requeen. The advantages are many — lots of young bees in the fall will insure better wintering, less spring dwindling, quicker spring build-up. Then too, these young queens will give you less trouble with swarming next spring. Why not try it this fall?

PRICES

Lots of: 1 to 24	$ .90 each
25 to 99	.85 each
100 or more	.80 each

The Stover Apiaries

Mayhew, Miss.

QUEENS: Progeny-Test 3-Banded Italians

Also QUEENS: Mraz's Daughters of Stock Bred for Resistance

QUALITY AND SERVICE

Do you want Queens that winter better, produce larger crops, have long life without supersedure, less inclined to swarm and resistancy to afb? We suggest you try a few MRAZ STRAIN QUEENS. These breeders are the pick of 800 colonies with proved characteristics to survive Northern Vermont climate. They may prove successful in your territory.

All shipments fully protected by Health Certificates

PRICES: Queens, 1-24, 90c; 25-50, 85c; 51-99, 80c; 100 and up, 75c

GARON BEE COMPANY

DONALDSONVILLE, LA.

Telegram—Western Union Telephone 8614

QUEENS

ITALIANS	CAUCASIANS
Daughters of Queens bred for Resistance	Bred to Italian Drones

QUEENS balance of this year $1.00 each. Send for Free Circular.

2 lb. pkg. bees with queen, $4.00; 3-lb. pkg. with queen, $5.00

Over 25 years a shipper in U. S. A. and Canada.

BLUE BONNET APIARIES, Route I, Box 70, Mercedes, Texas

This photo shows portion of our queen bee yard containing over 6000 nuclei.

5,000 three pound package bees with queens available

Packages in Proportion

May we serve you
3 lb. with qns. $5.00
2 lb. with qns. 4.00
Extra qns. 1.25
By Express

OVERBEY APIARIES, BUNKIE, LA.,

OUR WINTER PROBLEM

(Continued from page 435)

begin to lay later in winter in packed hives than in hives not packed. The bees in unpacked hives are subject to greater stimulation from changing conditions outside. The constant temperature and humidity in a packed hive should be a help for successful wintering in northern territories where bees may be confined for long periods of time.

A small top entrance (½ inch in diameter) in the front of the hive and in addition to the normal bottom entrance did not change temperature or humidity conditions in the hive to any great extent. The top or safety entrance may, therefore, be added without fear of setting up a destructive draft or of lowering the inside temperature. It will, on the other hand, prevent suffocation should the bottom entrance become clogged.

Little need be said about the **vigor of colonies** except that dark bees are able to survive colder conditions than are most yellow strains. Bees acclimated to northern climates withstand more cold than do bees bred in the South or those bred for color and gentleness. Only bees with a successful history in cold climates should be used in northern Pennsylvania or farther north.

Disease plays a more important part in wintering than many beekeepers realize. Imported strains seem more susceptible to adult disease than most of those acclimated. However, there is not always such a distinction. Colonies of bees may winter successfully only to die in great number in April or May from Nosema or other adult diseases. The adult diseases are present in most apiaries where they await favorable conditions to develop. The loss may be attributed, by the beekeeper, to spring dwindling, May disease, or some other obscure cause. Little is known of either the cause or the history of most adult diseases.

In a closing statement regarding good winter practices, our research work indicates that the following recommendations should be emphasized: Use only the best acclimated stock. Winter bees on a large quantity of good quality food. Pack bees in the colder climates. Provide wind protection the year around. Give each hive a top entrance. Use good beekeeping practices in fall and spring.

• • •

BEEKEEPING IN ENGLAND

(Continued from page 437)

stocks which have been destroyed under the comparatively recent foulbrood Disease of Bees Order. This Order (which does not apply to Scotland) is administrated through voluntary inspectors, appointed in conjunction with beekeepers' associations, and county War Agricultural Executive Committee. All cases of suspected foulbrood must be confirmed by the Bee Research Laboratory, Rothamsted Experimental Station, before action can be taken.

There are a number of monthly papers devoted to beekeeping, among which the "Bee World," a publication of the Apis Club, is mainly concerned with research; whilst "Bee Craft" has the largest circulation among the beekeepers in general. "Beekeeping" is a journal popular in the Southwest, whilst Scotland has the "Scottish Beekeeper" for its periodical.

Progressive beekeepers in Great Britain also subscribe to American publications.

(To be continued)

Gaspard's Quality Italian Package Bees and Queens

We are now booking orders for Spring, 1945. Only 20% with order, balance at shipping time. 50c more per package after January 1st. Prices as follows:

2-lb. package with queens $3.50
3-lb. package with queens 4.50
4-lb. package with queens 5.50

J. L. GASPARD, Hessmer, La.

BUY U. S. WAR BONDS

The Monthly Honey Market

U. S. GOVERNMENT REPORT
Information from Producing Areas

CALIFORNIA POINTS: (Aug. 22-Sept. 7)

Southern California. Considerable hot weather prevailed over Southern California during early September, followed by cloudy and cooler weather. The honey flows have practically ended. A little pasturage is being obtained from scattered late wild buckwheat, blue-curls, rabbit brush, lima beans and miscellaneous weeds. Considerable pollen is being gathered in some locations. Colonies are in good condition with plenty of bees, brood and in most cases with sufficient stores of pollen and honey. Brush fires over rather widespread areas, especially in San Diego county, have burned over a large acreage of bee pasture and destroyed some apiaries. Demand for honey has been somewhat lighter recently. However, with the short California crop it is not expected that this slackening in demand will materially affect the price. Some foreign honey from Mexico and Central America and a little from Hawaii which has been offered has had a bearing in slowing down the demand for local honey. Sales f.o.b. shipping point, extracted, in case to ton lots $14.40 per case of 120 pounds regardless of type and flavor. Beeswax continued in good demand at the ceiling of 41½c per pound f.o.b. cash to beekeepers and 43½c per lb. in trade.

Imperial Valley. Bees appear in normal condition in the Imperial Valley. No honey is being obtained at this time. Tamarisk has produced nothing this year. Sales f.o.b. shipping point per pound, extracted, Alfalfa, 1 car reported 12c.

Central California. The warmest weather of the summer prevailed during the past week in both the central valleys and the coastal regions. A little honey is coming in from star thistle and miscellaneous weeds. Greasewood is just beginning to bloom. In some sections bees have been swarming quite heavily during recent weeks. Sales f. o. b. shipping point. per pound. Extracted, Alfalfa, Buckwheat, and Mixed Flowers in case to ton lots 12 cents.

Northern California. Colonies are generally in very poor condition for this season. In some sectins they have been weakened by arsenical poisoning. In other sections where colonies were in poor condition at the beginning of the thistle flow they built up fairly well. Star thistle dried up early in most of the valley sections and the thistle crop will be the lightest in a number of years. The clover crop for northern California will likely run not more than 25-35 percent of normal. A little honey is now being obtained from alfalfa, spikeweed, morning glory, blue curls and late yellow star thistle. Demand for honey has been very good. Some bottlers fear that with the light crop of star thistle that they will have insufficient supplies to carry them through until next season. Sales f.o.b. shipping point, per lb., extracted: Thistle, Carrot, and Mixed Flowers 12c. Imported, Wild Flower honey 11½c per pound dockside in Bay Cities area.

TOO LATE TO CLASSIFY

WANTED—Extractor. 2 to 4 frame reversible or not, hand or power. E. E. Griffin, 76 E. Bdy., Derry, N. H.

FOR SALE—Boiler, flueless, height 78 inches, diameter, 30 inches, 100 pounds pressure. Used very little. A. Pastian. Brandon, So Dak.

ITALIAN bees and queens. Let us quote our special prices on package bees and queens, for 1945. Write us a card today Satisfaction guaranteed. Dixie Bee Farm, Normand Bros., Prop., Hessmer, La.

TO BE SURE OF
THREE-BAND ITALIAN BEES
AND QUEENS
book your order early with
ANDERSON BEE COMPANY
Opp, Ala.

THE BEEKEEPERS MAGAZINE
$1.00 a Year
Is one of the leading national beekeeping publications. Single copy current issue, 10c. Combined with Gleanings in Bee Culture it makes a splendid combination. Both magazines, one year, $1.75.
THE BEEKEEPERS MAGAZINE
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The Leading Bee Journal of the Southern Hemisphere is the
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Subscription 5 shillings per year. Start any time. Inquire for International Money Order for 5 shillings (Australian) at your Post Office.
Write now to the Editor. P. O. Box 20. West Maitland New South Wales Australia

TOWNSEND SALES COMPANY
E. D. Townsend Northstar, Michigan
I pay ceiling price for Michigan honey, either white, amber, or buckwheat. What have you? This price, $7.20 per can, is for honey at your door, in 60-lb. cans, no shipping case required. A postal card will bring our truck to your place at once. No new customers for honey wanted. Another year, when crop conditions are better, it is hoped to have honey for all comers. Until then, thanks a lot.

Pacific Northwest: Period Aug. 22-Sept. 7)

West of Cascades. Abnormally warm weather prevailed during the early part of September except along the coast. In some of the interior valleys record September temperatures were established. Heavy showers at the close of the period reduced fire hazards in fireweed sections. The fireweed flow is over and in most sections the crop is one-half of normal or less. In some of the lower elevations having a fairly long flow yields of 40-50 jounds per colony were obtained, but in most sections and especially the higher elevations yields have run only 15-25 pounds per colony. Bees are generally in good condition and most colonies have ample stores. Little large lot buying of honey was reported as many producers are selling their late crops at roadside stands.

East of Cascades. In general bees are in good condtion, although some foulbrood has been reported in the Walla Walla district and spray injury was rather serious in the Yakima Valley and some other fruit areas. A fairly good flow continued through this period which is rather unusual.

SUMMARY

Drought conditions which prevailed in many sections of the country during much of the summer were broken by good rains during this period. Much of the Pacific coast area and portions of the Intermountain area, however, remains abnormally dry. Temperatures over much of the east and middle west during early September were somewhat below normal while in the Pacific Northwest and portions of California above normal temperatures prevailed. In western Oregon and Washington record high temperatures for September were established.

All major honey flows have ended. Extracting is active in all areas. Over most of the north central and eastern States and well in to the south goldenrod and asters are yielding. Through the middle west heartsease and Spanish needle are fairly plentiful. In most sections prospects are fair for a favorable fall flow which will provide additional winter stores. In practically all sections of the country colonies are in good condition with plentiful brood and young bees. In most sections it appears that plenty of honey will be available for winter stores. Except for the South Atlantic, South Eastern, South Western, portions of the Intermountain area, and in eastern Oregon and Washington reports continue to indicate a crop much below normal and in many sections below the light crop of last year. The general quality of the honey crop is good. Demand for honey improved in most sections as compared to a month ago, but is still below the heavy demand that prevailed at this season last year. However, the general feeling exists that in view of the light national honey crop little trouble will be experienced in moving good grades at ceiling prices. In some sections fairly plentiful supplies of dark imported honey and also of various sugar sirups have caused some lessening in retail demand for honey. In most sections clover plants appear in fairly good condition for next year. However portions of the North Central area and in the Northeast drought has reduced stands and it seems possible that some additional acreage of clover may be plowed up this fall or next spring.

Information From Producing Areas

(Prices generally refer to sales at wholesale by beekeepers f.o.b. shippping points except as otherwise noted. Dates shown for each section indicate approximate period covered.)

Monthly Report of Honey Producers

Sept. Date Rec.	State	Name	(1) Average Yield Ex.	Comb	(2) % of Av.	(3) Lg. Lots Ex.	Cb.	(4) To Groc. Ex.	Cb.	(5) To Cons. Ex.	Cb.	(6) Move-ment	(7) Cond. of Cels.
11	S-Ala.	J. C. Dickman						.97		1.11		Fair	100
13	B.C.	A. W. Finlay	45		90	.14						Fair	100
11	S.-Calif.	L. L. Andrews	15		30					1.18		Fair	80
11	S-Calif.	Geo. Larinan				.12				1.10		Rapid	80
9	SE-Colo.	Otis E. Adcock	75		100	.11½		.95		1.10	.35	Fair	100
11	S-Fla.	C. C. Cook	60		100	.11½		.85		1.10		Slow	100
11	C-Fla.	Harry Hewitt	40		75			.85		1.00		Fair	100
13	NC-Ills.	A. L. Kildow	30		25			1.00		1.00	.25	Fair	100
8	NW-Ind.	E. S. Miller	60	30	75			.95		1.10	.35	Fair	100
13	W-Iowa	E. G. Brown	60		40	.11½						Fair	100
13	N-Mich.	Ira D. Bartlett	125		125			1.00		1.28		Fair	100
11	E-Mich.	L. S. Griggs	10		10					1.15		Fair	75
11	S-Mich.	Floyd Markham	50		40	.12				1.25	.35	Fair	90
11	C-Mich.	E. D. Townsend	20		25	.12						Rapid	100
12	W-Minn.	B. L. Morehouse	80		70					1.25		Rapid	90
15	C-Nebr.	J. H. Wagner	40	50	65			.90		1.09	.24	Slow	85
11	W-Nev.	Geo. G. Schweis				.12		.21		.37		Fair	75
8	NW-N.Y.	Geo. B. Howe	50		50			.80		1.10		Slow	95
6	C-N.Y.	F. W. Lesser	35		40							Rapid	100
11	SE-N.	C. W. J. Martin	100		90	.12		1.00		1.25		Fair	100
8	C-Ohio	R. D. Hiatt	90		90	.13		1.05		1.45		Fair	100
14	NC-Okla.	C. F. Stiles	20		90			.95		1.20		Fair	85
8	C-Penn.	Harry Beaver	90		100	.12		.90		1.05		Fair	100
7	SE-Penn.	D. C. Gilham	25	10	35			1.00		1.25	.35	Fair	60
8	C-Tenn.	J. M. Buchanan	50	30	75					1.25		Fair	90
11	E-Tenn.	W. L. Walling	20		50					1.75		Rapid	90
11	C-Texas	T. A. Bowden	40		75			.90		1.10		Fair	75
8	S-Texas	C. G. Mayes	20		25							Rapid	
9	S-Texas	H. B. Parks	43		98							Fair	100
12	W-Utah	Wm. Moran	40		80	.12				1.15		Rapid	90
11	N-W. Va.	W. C. Griffith	50		75					1.50		Rapid	80
11	N-Wyo.	Earl C. Reed	100	60	100	.12		.90		1.15	.35	Fair	100

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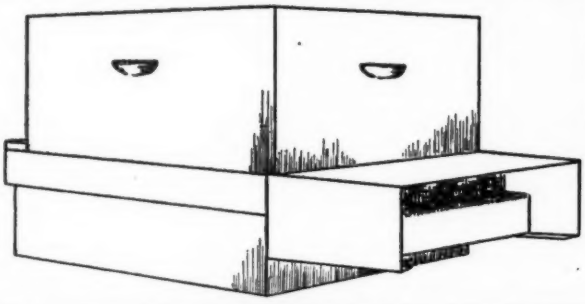

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